EXCAVATIONS ON THE ROMAN VILLA AT BEADLAM, YORKSHIRE

by

David S. Neal



YORKSHIRE ARCHAEOLOGICAL REPORT No 2.

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Frontispiece: Painting by David S. Neal of the mosaic from Room 2, Building 1. © David S. Neal

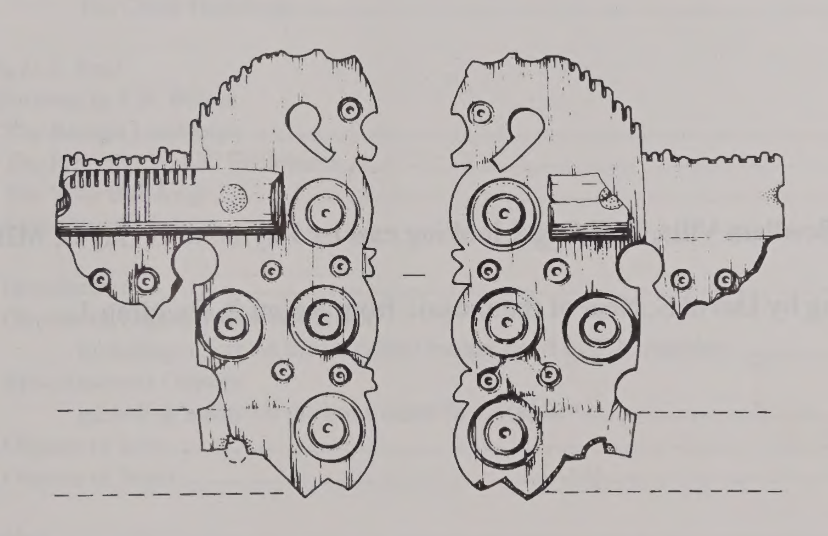
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by

David S. Neal, DLitt, FSA

with contributions by

M.J. Allen, C. Barclay, S. Cottam, P.E. Curnow, J. Evans, D. Heslop, S.A. Mays, G.C. Morgan, J. Price, I. Riddler, D. Sherlock, S.R. Strongman, C. Tolan-Smith, D.F. Williams, and P.R. Wilson



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Cover photograph: Beadlam Villa, Building 1 looking east by Raymond H Hayes, MBE, FSA

Frontispiece: Painting by David S. Neal of the mosaic from Room 2, Building 1

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CONTENTS

LIST OF FIGURES

All scales in photographs are 2m unless otherwise stated.

LIST OF TABLES

ABSTRACT

Beadlam Roman Villa was excavated between 1966 and 1978. The villa is one of the most northerly known in Roman Britain and one of the few Yorkshire villas to have been excavated on any scale under modern conditions.

The excavations and this report concentrate on the evidence for the latest periods of occupation on the site, and in particular on the three ranges of rectilinear buildings, although late Roman ovoid and sub-circular structures are also described and discussed. As one of the primary objectives of the excavation was to provide a site for public display earlier deposits sealed by the stone building were in general not investigated, although geophysical survey has provided additional plan data for the site.

In addition to the mosaic from the site major groups of later Roman pottery and glass are discussed and described along with a wide range of other material. In addition to a substantial coin assemblage notable amongst the small finds are two hoards of iron objects and an inscribed bronze bowl.

The site is in the guardianship of English Heritage.

PREFACE

by David Sherlock

Beadlam Roman villa survived unrecognised as an earthwork until 1964 when it was partially ploughed for the first time. After trial work in 1966 Dr Ian Stead, then Inspector of Ancient Monuments, carried out major excavations, establishing the existence of a winged corridor villa. Excavations were continued by Mr A.L. Pacitto. The site was scheduled as an ancient monument in 1969 and taken into the guardianship of the Department of the Environment by purchase in 1972. It is one of the few surviving Roman buildings of civilian type to be seen anywhere in the north of England. Although it is not quite the most northerly villa in Britain, it is certainly the most northerly with any remains available for visitors to see. The villa shows clearly the pervading influence of Romanisation in the countryside of this the most northerly province of the Roman empire. Its remains, both buried and exposed, are of considerable archaeological interest and having survived largely unploughed are in a better state of preservation than many other comparable sites in England.

Outright purchase and guardianship of the field by the State have secured the preservation of the remains into the future but have only now resulted in the writing up of the excavations. The post-excavation history of the site has been tortuous. Dr Stead published an interim report on his excavations of the north wing, including the best of the small finds, in 1971, but the later excavation results have had to go largely unnoticed by students of Romano-British villas. J.T. Smith (Smith 1978), for example, considered Beadlam as a two-winged villa in the context of theories of dual occupancy and social structure, unaware of the third wing. No plan of the buildings on the east side of the courtyard has hitherto been published. Between the end of the excavation and 1988 little work was done, and the finds were moved several times, and some were lost.

In 1988 Tony Pacitto handed over further papers to the East Riding Archaeological Research Committee together with archives from his other excavations. This committee, which evolved into MAP Archaeological Consultancy (Malton) Ltd, then offered to complete the ordering of the Beadlam villa archive, relating it to such finds as it was able to locate from various depositions now scattered around the country awaiting specialists' reports. The archiving process was completed as far as possible by MAP in April 1994. Some successes were had - notably the finding of valuable excavation photographs (upon which the plan of the west range has been based), and the rediscovery of the glass fragments (a rare assemblage from a late Roman rural site) - but to date the samian, and much of the metalwork is still missing, including all the coins from the 1969 excavations, and that part of the animal bone assemblage which remains with the archive is largely unstratified.

The final chapter in Beadlam's post-excavation history is, however, much more fortunate. English Heritage, whose responsibility the site now is, and students of Romano-British villas, owe Dr David S. Neal a great debt for pulling together these *disiecta membra* into a coherent whole, drawing on archives dating back thirty years and necessitating calls and visits to numerous specialists and institutions. There are, I believe, very few archaeologists who could have made the best of this unenviable task as he has and future students of Beadlam, as well as those responsible for the conservation and preservation of the site must be very grateful to him. With wide experience from his own villa excavations and having visited Beadlam in 1969 to survey the mosaic, he was the ideal person to produce this publication.

All the surviving finds from Beadlam together with the excavation archive are stored at the English Heritage Archaeological Store at Helmsley.

ACKNOWLEDGEMENTS

The writer would like to acknowledge the help given by many people in the preparation of this report; in particular David Sherlock, Inspector of Ancient Monuments, who has co-ordinated the work and written the Preface. Other contributors to the report include M.J. Allen (environmental material from the animal bell), C. Barclay and P.E. Curnow (coins) S.A. Butcher (enamel), Jeremy Evans (pottery), K.F. Hartley (mortaria), W.H. Manning (iron), S.A. Mays and S.R. Strongman (human burials), G.C. Morgan (the plaster analyses), A. Payne (the geophysical survey), Jennifer Price and Sally Cottam (glass), D. Heslop (querns), I. Riddler (note on the bone comb), C. Tolan-Smith (flint), D. Thompson (soils) and D.F. Williams (identification of the materials of the tesserae). Reports on the metalwork and miscellaneous finds, wall plaster and the mosaic are by the writer. The preparation of the archive was carried out by MAP Archaeological Consultancy Ltd, under the direction of Anne Finney, which also undertook the drawing of the pottery. Other drawings are by Yvonne Beadnell, Christine Boddington, Sandra Hooper and the writer who would also like to acknowledge Archaeological Services and Consultants Ltd (ASAC), and its Secretary C. Clack, for liaison with English Heritage. Martin Allfrey of the English Heritage artefact store, Helmsley, is thanked for all his help in trying to locate missing material as is Glynis Edwards of the Ancient Monuments Laboratory. Photographs are by Tony Pacitto. Help has been provided by Valery Rigby and Peter Wilson.

This report is published with the aid of a generous grant from English Heritage Historic Properties Division (North Region).

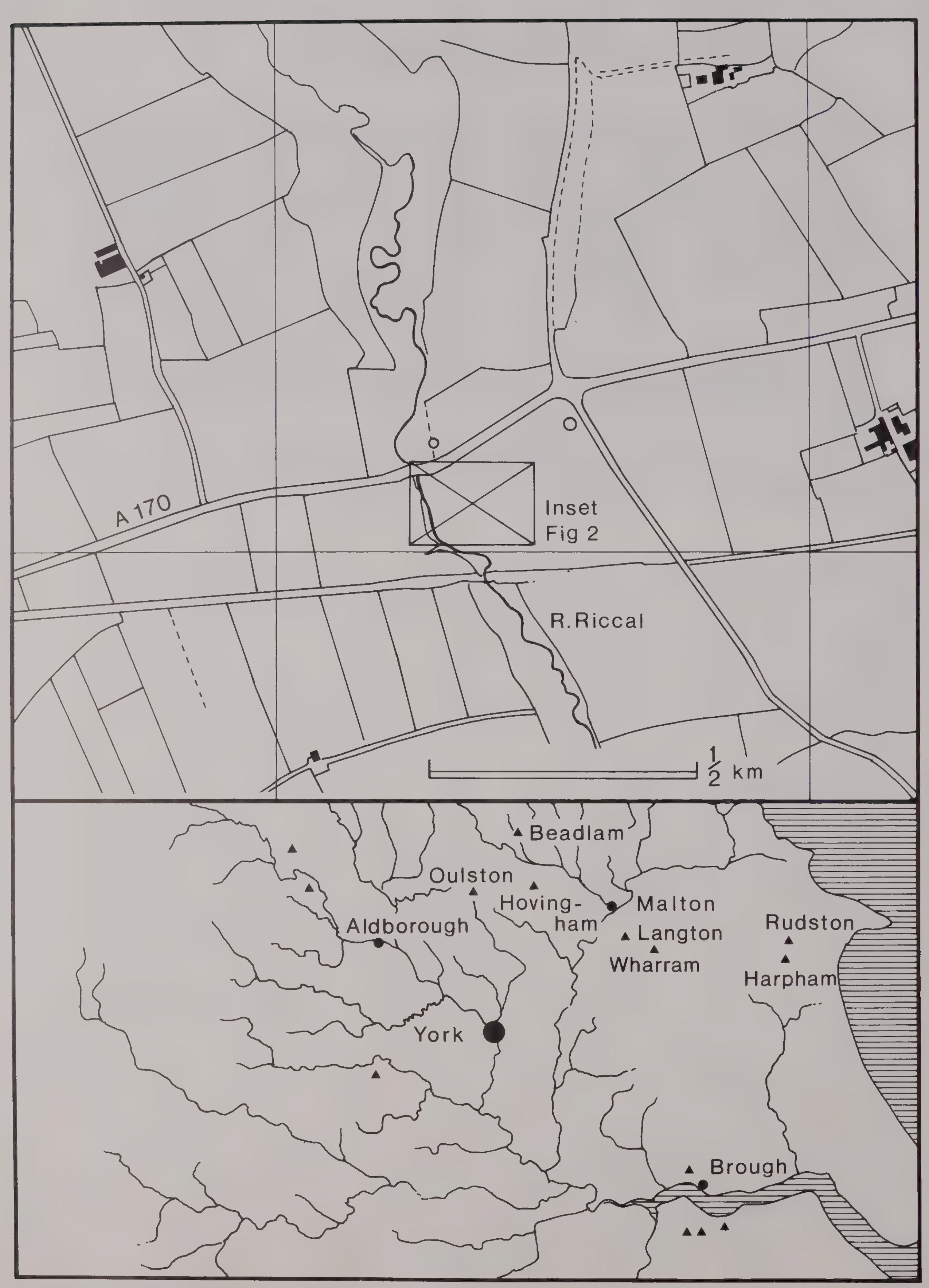


Fig. 1 Location map.

INTRODUCTION

Beadlam Roman villa (SE 6337 8412) lies about one and a half miles east of Helmsley just to the south of the A170, the Helmsley to Scarborough road (Fig. 1). It stands at the foot of the East Moors close to the east bank of the River Riccal, where the river emerges from Riccal Dale, and occupies slightly elevated ground (*c*. 55m OD) overlooking the Riccal Moor to the south (Fig. 2). The closest known villa is at Hovingham, about five and a half miles to the south while Malton (conventionally Roman *Derventio* (but see Creighton 1988)) is about twelve miles south-east.

Discovery

Local archaeologists have long known of the existence of old buildings on the site but these were dismissed as 'old cart sheds' and for a long time the area was pasture and the mounds overgrown with thistles, nettles and other rubbish. The field had not been ploughed within living memory and its only claim to fame was the site of a military camp occupied by the Yorkshire Hussars, the Yorkshire Dragoons and the East Riding Yeomanry during and after the Boer War. This event is attested in the archaeological record with a substantial collection of cartridge shells and iron tent-peg ferrules and spikes found in the topsoil and the upper levels of the rubble deposits. It is also said that members of an otter hunt dug into one of the mounds on the site and discovered tesserae, pottery and tile although the discovery was never documented.

Fieldwalking by A.L. Pacitto in 1965, after ploughing, led to the discovery of several pieces of *opus signinum* indicating that the buildings were not medieval, as previously assumed, but Roman. In order to assess the degree of preservation and extent of the site, trial excavations took place in the autumn of 1966 and established the presence of a villa. With walls standing about 1.00m high in places its excellent preservation led to negotiations taking place between the (then) Ministry of Public Building and Works and the landowner with a view to giving the site permanent protection. It was purchased by the government and became a Guardianship Monument in 1979.

The Excavations

In the summer of 1969 major excavations (Fig. 3) took place under the direction of Dr I.M. Stead, then Inspector of Ancient Monuments, with the objective of exposing the Northern and Western ranges down to the latest occupation levels. Because the site was so well preserved and because it was being considered for public presentation depth constraints were imposed on the excavation. Consequently, walls were not dissected to establish antecedents and nor were excavations made beneath floors to recover dating evidence. In some cases, therefore, the sequence of development and dating of the structures still remains tentative and is often based on the presence, or otherwise, of butt joints; however, it must be remembered that the presence of butt joints does not, necessarily, signify different phases of development.

The work established the presence of two building ranges; a North Range (Building 1) of winged-corridor plan, with a well preserved mosaic, and a Western Range (Building 2), also of winged-corridor plan, incorporating a bath-suite at its south end. The structures flanked the north and west sides, respectively, of a farmyard (Fig. 4).

In 1972, following the decision to present the site for public display, further excavation took place under the direction of A.L. Pacitto. This work was confined to the eastern part of the site to establish the form of the Eastern Range known to exist from geophysical surveys. The North Range was re-exposed in 1974 by Pacitto prior to consolidation and at the same time the mosaic in Room 2 was lifted by Art Pavements Ltd. The mosaic could not be preserved *in situ* without an expensive cover building and is presently in the English Heritage artefact store at Helmsley together with the finds and photographic and paper archives. Minor excavations continued until 1978.

For all excavations the finds from the site were recorded by letter code as follows (see also Fig. 4):

BA	West Range	1966 excavations
BB	North Range	1966 trial excavations
BC	East Range	1966 trial excavations
LA	West Range	1969 excavations
LB	North Range	1969-1976 excavations
LC	East Range	1972 excavations
LX	North Range	1977 excavations
LM	North-east Range	1978 excavations

In addition, an alphabetical code following an oblique (/) was used for individual finds starting with AA. Therefore small find LB/ME, for example, was found in 1969 and came from Room II, Building 1. However, the room numbers in both Buildings 1 and 2 were subsequently changed for the interim report and these new numbers are adopted here throughout (the original numbers are given on pages 13 and 25). Dimensions of rooms are the internal proportions.

In order to better understand the context of the villa buildings in relationship to the man-made landscape, in 1992 the Archaeometry Branch of the Ancient Monuments Laboratory undertook magnetometry and resistivity surveys. These not only highlighted the presence of a ditched enclosure predating the villa but also a series of ditches beneath the Eastern Range; that an earlier enclosure existed was hinted in 1969 by the discovery of a substantial ditch beneath the east end of Building 1 and a slight earthwork curving round to the south of the site. The geophysical surveys also located further outbuildings. The evidence for Phases 1-3 predating the villa, and outlined below, is largely drawn from detailed analysis of the magnetometer and resistivity surveys. The phasing, therefore, must be regarded as provisional; further excavation or further geophysical surveys might reveal other features which could require the interpretation to be revised.



Fig. 2 Overall site plan in relation to contours and the River Riccal.



Fig. 3 Aerial photograph of excavation in progress 1969. View south-west.

An interim report on the work of 1969 appeared in the *Yorkshire Archaeological Journal* (Stead 1971) but subsequent excavations remained unreported. To redress this the finds and paper records were passed to the Manpower Services Commission sponsored post-excavation unit based at Bradford University with a view to preparing a full report. For various reasons the work was not completed and in 1989 it was passed to the East Riding Research Committee/MAP Archaeological Consultancy Ltd, at Malton to complete the preparation the report to archive standard.

Unfortunately, between the completion of the excavation and the involvement of MAP in the archive report some of the primary material was mislaid - notably the coins and samian pottery. Fortunately provisional identifications of the lost coins found in 1969 were available but unfortunately the site coding numbers were not given on the coin identifications and, therefore, although a date range for the coins is known their individual find spots are uncertain. Some notebooks give a provisional identification of the coins found within specific areas but they cannot be considered sufficiently reliable. It was also necessary for MAP to prepare some lost plans using photographs.

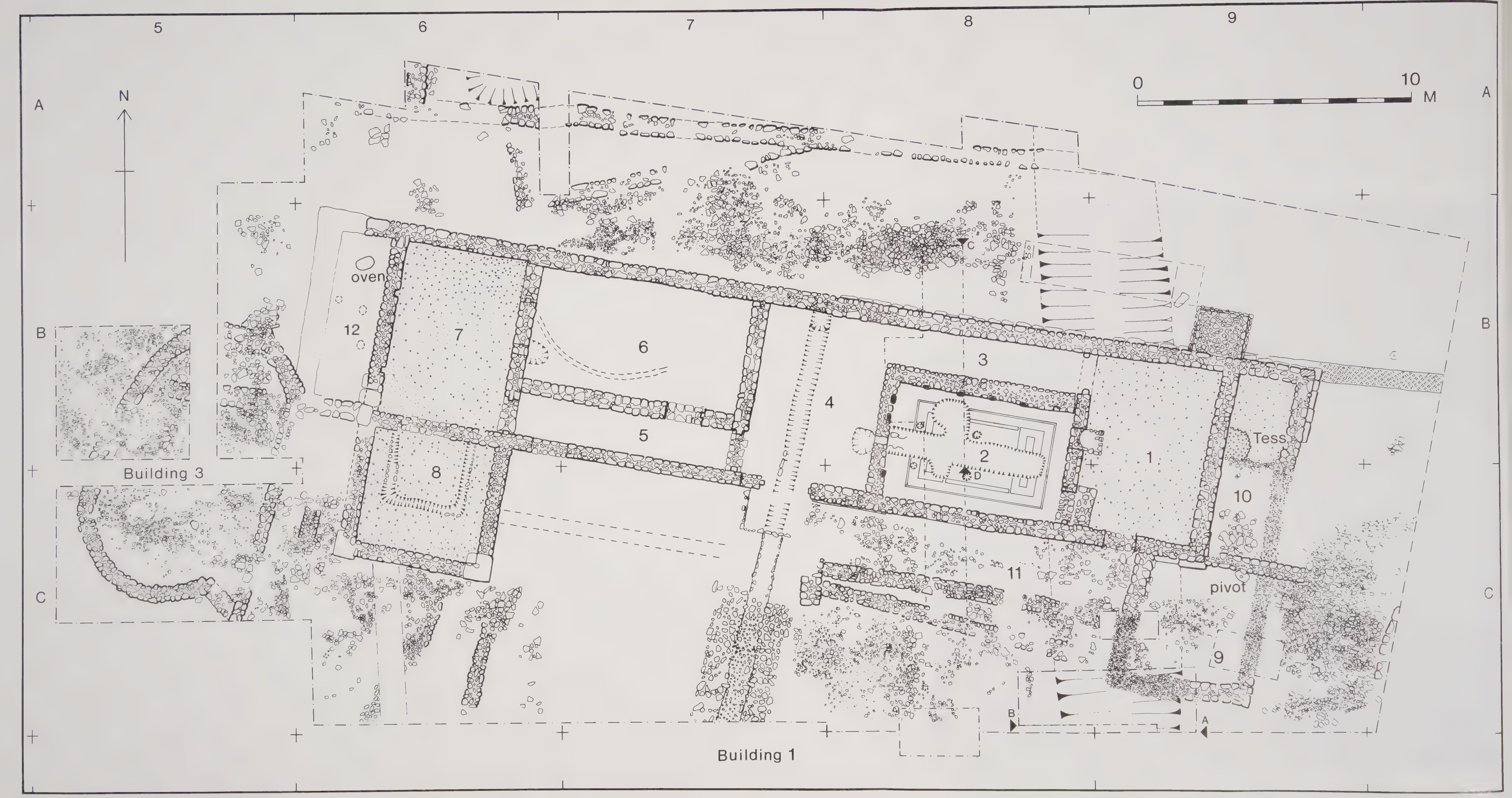


Fig. 10 Plan of Buildings 1 and 3; the North Range.

THE GEOPHYSICAL SURVEY

by Andy Payne

Extract from Ancient Monuments Laboratory Report No. 02/93

METHOD

A range of survey techniques including magnetometry, magnetic susceptibility and resistivity-were employed on a 30.00m by 30.00m grid.

1. Magnetometry. A Geoscan FM36 fluxgate gradiometer was carried across the grid squares along successive 30m traverses orientated north-south, and spaced at 1.0m intervals. The magnetometer signal (sensitive to changes of 0.1 of a nanotesla) was sampled at 0.25m intervals along each traverse. A greyscale plot of the resulting data after enhancement by a 1m radius Gaussian low-pass filter (Scollar *et al* 1986) is presented in Figure 5a.

2. Magnetic Susceptibility (MS). A sample of topsoil was taken from the centre point of each grid square. The samples were subsequently dried and sieved in the laboratory and their MS values obtained using a Bartington MS1 meter and MS2B sensor, calibrated for a mass of 100g.

3. Resistivity. The resistivity survey was carried out using a Geoscan RM15 integral resistivity metre and datalogger operated in the Twin Electrode configuration with a mobile probe spacing of 0.50m and a reading density of 1.00m. The resulting raw data is displayed as a greyscale plot in Figure 5b.

THE RESULTS (Fig. 6)

1. Magnetometry

Walls

In general the magnetometer was not successful in tracing the continuation of known walls beyond the limits of excavation. This was partly because magnetic disturbance around the excavations made it difficult to isolate the slight negative magnetic anomalies usually associated with buried masonry within a more magnetic soil. Alternatively, poor magnetic contrast between the building stone and the local soils could be the cause. Despite this, the walls of an apsidal building, Building 5, are recognisable as weak magnetic anomalies but there are few comparable responses from unexcavated areas. There is a suggestion, therefore, that outside the excavated areas, walls may be less substantial, or robbed. A tentative circular structure (?Building 11) similar in diameter to Building 6 excavated to the south may have been located as a series of slight negative magnetic anomalies in the north-east part of the survey.

Ditches

The value of the magnetometer survey was in its ability to detect former ditches. Of particular interest is a series of linear anomalies of variable definition giving the impression of a sub-circular enclosure part of which was excavated beneath Room 9 in the North Range. The resistivity survey provides complimentary evidence for this north of the building where it is only poorly defined by the magnetometer readings. The circuit of the enclosure was not confirmed in the south-west by either technique, possibly because there was an entrance here, or because of the adverse influence of alluvium from the River Riccal. (The resulting increased soil depth over buried features and the possibility that the magnetic minerals present in some alluvial deposits do not record past anthropogenic activity well (see Linford 1994) both act as limitations on geophysical techniques). In the south the enclosure appears to be sub-divided by another linear feature on an east-west alignment, although the survey does not reveal how the two features relate to one another. To the east is a pattern of smaller linear anomalies resembling the ditches of a field system. Several filled in pits also occur within this area.

Occupation and Industrial Features

Directly south of Building 2 are a group of intense magnetic anomalies that may represent an area of industrial activity, since baked clay structures, such as kilns and ovens, produce a characteristically strong response. One such anomaly is possibly a kiln while others may be buried pits containing burnt debris or occupation refuse. A comparable group of anomalies was detected by magnetometry in a similar location at the winged-corridor villa at Clatterford on the Isle of Wight (Payne 1993).

2. Magnetic Susceptibility

The magnetic susceptibility values complement the above results and show high readings around the villa complex and low readings along the western edge of the survey. The results again probably reflect the presence of alluvial cover and help to explain the failure of the magnetometer to respond to the hypothetical south-west part of the enclosure circuit.

3. Resistivity

a. The resistivity data contains two distinctly different responses; those derived from back-filled trenches and those resulting from probable archaeological sources which include the putative enclosure ditch. The resistivity survey located the northern part of the enclosure more clearly than the magnetometer survey which responded better to the south and north-west segments of the enclosure.

b. A series of small peaks in the resistivity readings south of the villa (see A on Fig. 5b) may represent the foundations of a square building (Building 10). A similar isolated group of anomalies occurs further north and may be a wall footing running east-west.

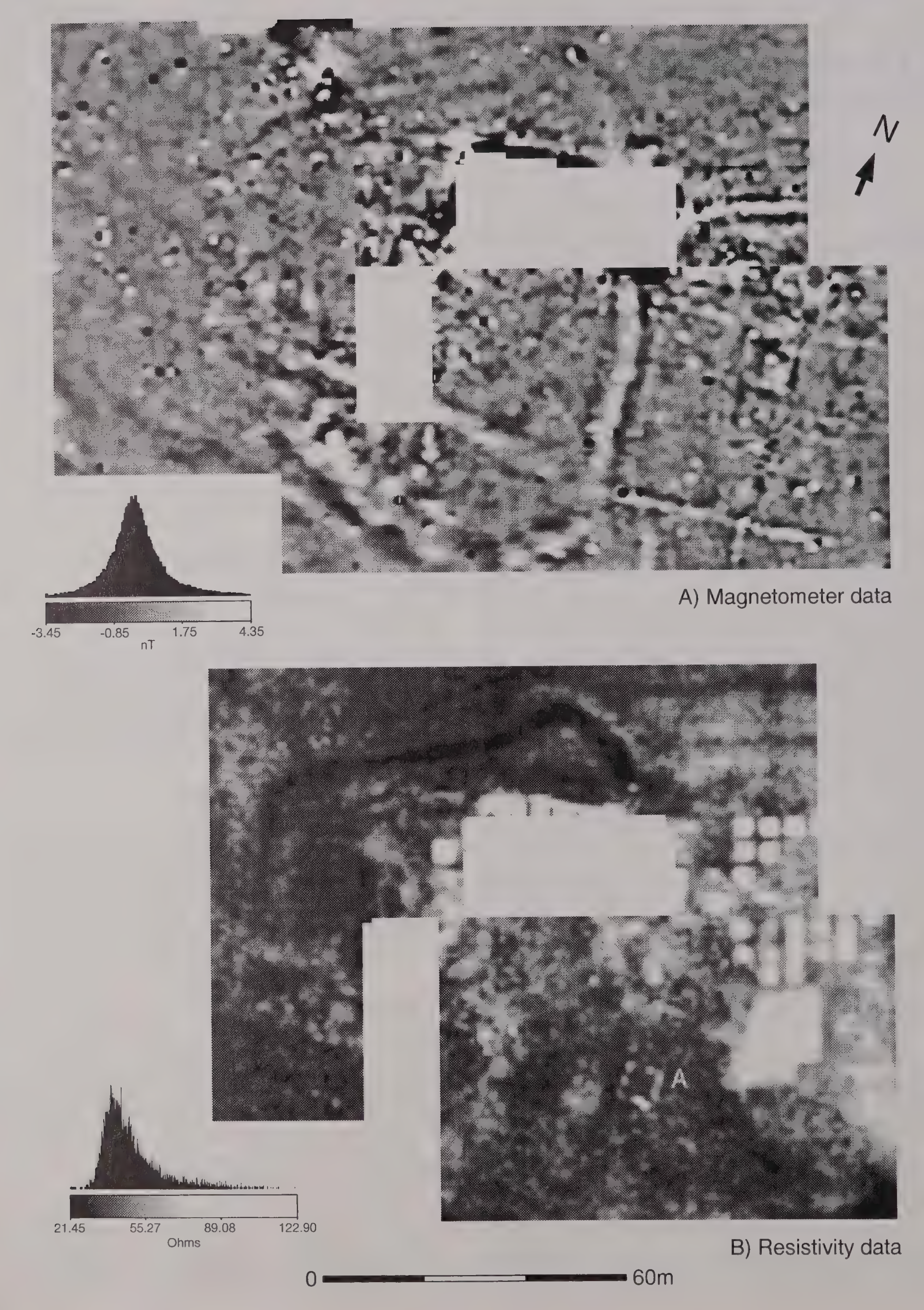


Fig. 5 Magnetometer survey (A) and Resistivity survey (B). For location see Fig. 6.

AMLab

N

Scale

0 60m

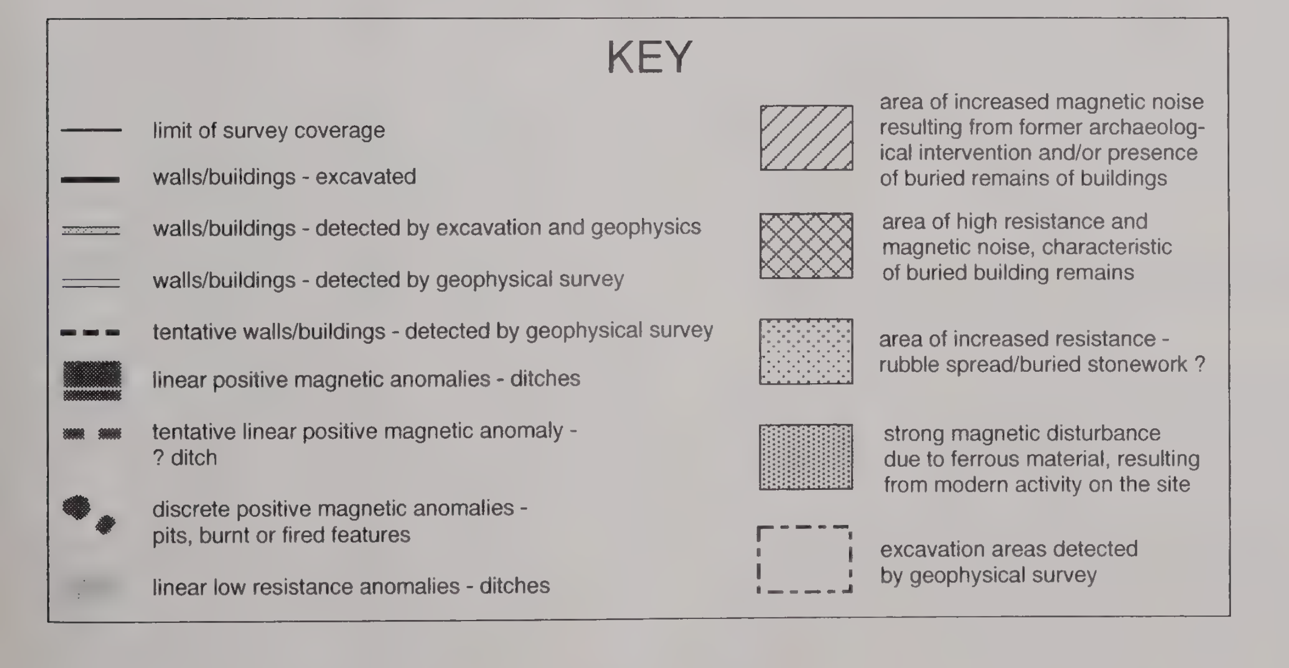


Fig. 6 Interpretation of geophysical surveys.

c. An area of ill-defined higher resistance south-east of the East Range may contain buried masonry since stonework was also observed protruding through the turf.

d. West of the West Range is a broad zone of slightly higher resistance values which may indicate the presence of further buildings. Unfortunately, however, the evidence is inconclusive. A ditch detected by the magnetometer survey also lies in this area.

Apart from the discovery of Building 10 the results from the resistivity survey have generally been unhelpful in complementing the detailed picture of the unexcavated parts of the complex. No significant deviation in the readings is noticeable over areas expected to contain further buildings. Conditions on the site were obviously not optimal for detecting buried stone structures, perhaps because of the wet conditions prevailing during the survey and acting in combination with poorly drained clay soils of the Wickham 2 association (see below).

Conclusions

Although the survey was unable to provide the missing details of unexcavated buildings, it has provided a significant amount of new information particularly about the early enclosure and other possible pre-villa activity. There is also new evidence for outlying buildings and the continuation of other features to the east and south. The survey has also demonstrated the value of resistivity as a tool for detecting back-filled trenches.

Acknowledgement

The author would like to acknowledge the assistance of S. Fear during the fieldwork on which the geophysical report is based.

THE SOILS

The writer acknowledges the help provided by Richard Thompson of the Soil Survey and Land Research Centre of Cranfield University in the preparation of the following descriptions based on the soils map (Soil Survey 1983) and the accompanying Bulletin (Jarvis *et al*, 1984).

The villa lies at the margin between two soil types; to the south are soils of the Wickham 2 association (711f (Soil Survey, 1983)) which occurs where thin drift covers Jurassic clay shales and consist mainly of fine loamy over clayey typical stagnogley soils. In northern England the association covers 45sq km, principally in the Howardian Hills of North Yorkshire where it occurs on plateau sites where thin drift from weathered sandstone and siltstone covers clay shale. It is a slowly permeable soil which remains waterlogged for considerable periods in the winter. Grassland carries a serious risk of poaching and early spring and late autumn grazing are, therefore, curtailed. Because the soils have serious limitations, the choice of crops is restricted to winter cereals and grass. Timing of cultivation is critical and a tile drainage system is a prerequisite of any modern field operation.

To the north of the villa and the modern A170 road, the soils of the Wickham 2 association give way to soils of the Rivington 1 association (541f) which covers some 800sq km of northern England being most extensive in Yorkshire. It consists mainly of well drained coarse loamy soils in gentle or moderate slopes on sandstone, generally below 200m OD. The chief soils are the well drained Rivington series, typical brown earths. The association is found throughout the eastern foothills of the Pennines on Carboniferous rocks and on the North York Moors and Howardian Hills, on Jurassic rocks. It is well drained with drainage only being required locally where the groundwater level is high. Excess winter rainfall passes downwards easily through the permeable substrate. In drier districts the soils grow a wide range of crops including grass, cereals, roots, horticultural crops and soft fruit. The soils are naturally acid and regular dressings of lime are desirable as soluble nutrients are easily leached out. Much of the association is suited to extensive grassland.

Alongside the river, and becoming more expansive further south, the soils are alluvium (811a). About 2km south-east of the site the soils of the Wickham 2 association (711f) give way to soils of the Sessay series (831b), which incorporate fine and coarse loamy often stoneless permeable soils affected by groundwater and slowly permeable seasonally waterlogged fine loamy over clayey soils. This is, generally, flat land and today is suitable for cereals, some root crops and grassland.

THE MAN-MADE LANDSCAPE

The site at Beadlam is situated in an area rich in prehistoric monuments with three tumuli lying close to the villa; large numbers of tumuli occupy elevated locations on the moorland to the north and west. Many of these were explored during the barrow 'opening' campaigns in the nineteenth century. It is probable that they are mostly Early Bronze Age in date and provide evidence that the area formed part of an extensive ritual landscape (Spratt 1993, 118).

Prehistoric activity about the site is further attested by the presence of 57 worked flints found in the vicinity of the East Range (see below p. 116). A leaf-point and knife fragment suggest a date between *c.* 3500-1500 bc while a tentative date of *c.* 2500-1500 bc is given for the blades and scrapers. Although the assemblage may not be contemporary, nor belong to a single period of activity, the quantity of material indicates that the site was more probably the scene of procurement activities while the focus of the settlement possibly lay nearby.

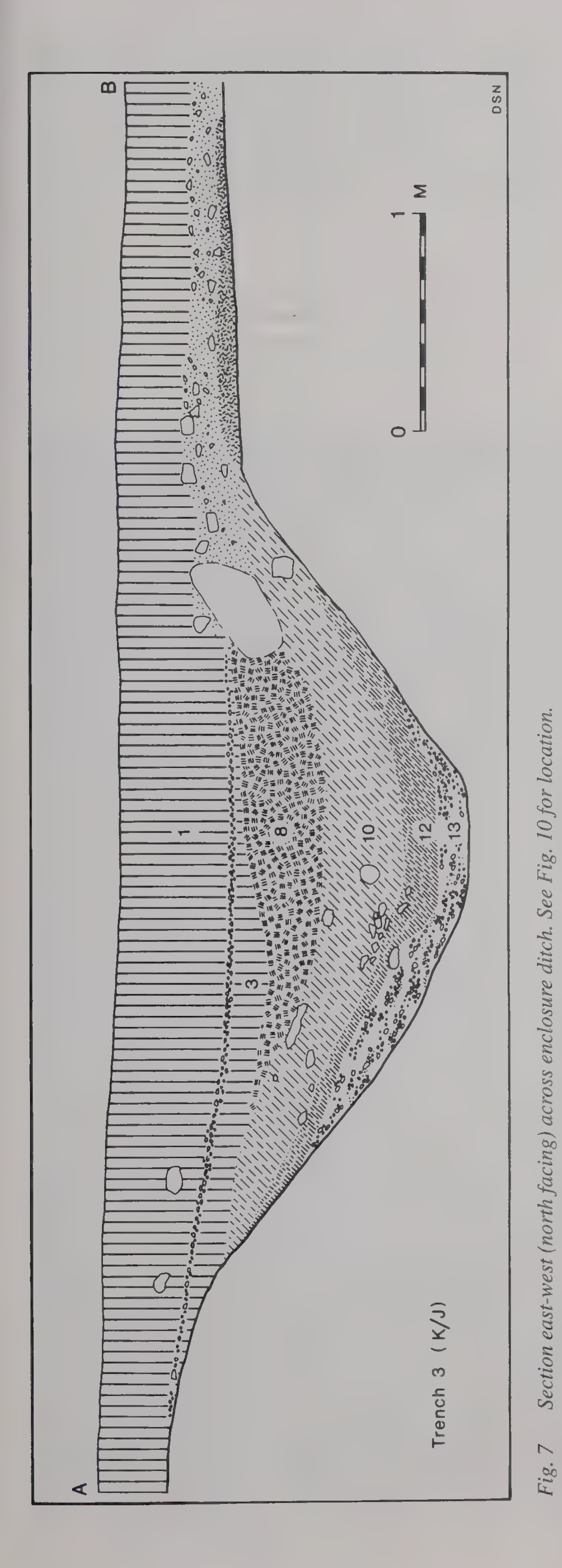


Fig. 7 Section east-west (north facing) across enclosure ditch. See Fig. 10 for location.

The presence of core tablets and rejuvenation flakes testifies that flint knapping did take place on the site as does the re-touched and utilised debitage. Although blades are a regular component of Mesolithic assemblages, the absence of any typical finds of this period, such as microliths or micro-burins, rules out evidence for activity of this period.

Evidence for Iron Age activity is lacking. This may be due in part to the superficial nature of the excavation but the pottery recovered from the lower fill of a pre-villa enclosure ditch is of a late Iron Age tradition common in the earlier Roman period, and in this case it is likely that it belongs to the mid-later second century A.D. and that the presence of traditional pottery forms reflects the retention of an earlier culture, as suggested by the continuing use of circular houses. Indeed, of particular significance, perhaps, is the fact that there are no coins earlier than issues of A.D. 96-117; however a lack of early coins is generally typical of other rural sites in the region (Wilson 1995a), and coins of the late first-early second century may only reach rural sites in the area in the early third century.

Little is known of Beadlam in the post-Roman period, either from archaeology or history. One of the burials from Building 1 postdates the abandonment of the villa (below p. 114), but no Anglo-Saxon finds have been recovered except for the comb possibly of 'Frisian' type (see below Fig. 33, No. 26). The villa was abandoned with little sign of robbing. The parish name exists as far back as 1086 in Domesday Book as *Boldum*, interpreted as the dative plural of *bodl* and meaning 'at the buildings' (English Place-Name Society 1928, 67). These 'buildings' could have been any early buildings in the parish and not necessarily those of the Roman villa. There was a church at Beadlam in 1309 but there is no later mention of it (Page 1914, 523).

THE EXCAVATIONS

Period 1
The Pre-Villa Settlement

Phase 1 The Ditched Enclosure

(Plan, Fig. 6, Section, Fig. 7)

The enclosure measured about 70.00m wide east-west by 93.00m maximum north-south. On the east side the ditch changed angle slightly midway along its length and at the north turned sharply south-west. Unlike the east side, the north ditch was curved inwards and appears from the geophysical surveys to become narrower. There is no evidence that the ditch on the west side completed the circuit which, on this side, was about 55.00m wide. From the north-west corner the ditch ran south for about 15.00m where there appears to have been

a terminal defining a broad opening about 40.00m wide. The ditch on the south side of the enclosure ran north-west to south-east and had a terminal curving at right angles at its north-west end. The surveys also suggest that the ditch on this side was recut on the same general alignment.

The function of the enclosure in its initial phase is uncertain but the apparent absence of a ditch on the western side would indicate that it was not for defence. More likely it was designed to confine animals and the wide opening intended to facilitate the rounding-up of stock. The focus of occupation in this phase is also uncertain but the geophysical surveys show considerable activity on the east side of the enclosure earlier than the masonry buildings; the presence of much pottery in the ditch here may also indicate a focus on this side. However, beneath Room 6, Building 1, was a curved gully (Fig. 8) which was possibly a ring-ditch around a circular building. No masonry was associated with it and it may be suggested that the feature surrounded a timber building. The existence of earlier occupation phases, presumably incorporating timber buildings, may be implied by the presence of a quern in levels predating and north-east of Room 10. An examination of Archive Photograph 49 appears to show that the quern was set in the internal angle of a sleeper beam on the same orientation as the villa but the date of this feature probably relates to a phase immediately pre-dating the masonry villa and need not be earlier than the later second century.

Phase 2

Although the lack of excavation elsewhere on the line of the ditch, and into early horizons, precludes too much emphasis being placed on the above interpretation, there is further evidence of activity being focused on the east side of the site.

In 1976 the ditch was sectioned in two places, in Trench 4, Area BIX, north of Room 1 (Fig. 9) and to the south of Room 9, Building 1 where the ditch measured about 4.50m wide with a U-shaped profile about 1.25m deep (Fig. 7). Its lower filling contained Roman pottery of the Iron Age tradition overlain by deposits of clay possibly infilled from the



Fig. 8 Building 1, Room 6. View west showing earlier curved wall trench. The hypocaust furnace arch serving Room 7 can be seen in the nearer wall.

bank to create a causeway. The clay north of Room 1 was overlain with cobbles which possibly formed part of a cobbled track which ran east-west directly to the north of the later villa (Fig. 10). North of the track and parallel to it was a wall which the geophysical surveys appear to indicate may have replaced an earlier ditch and that the same ditch continued its alignment east of the enclosure. It is also probable that the supposed trackway was flanked on its south side by another ditch of two phases which shows on the surveys east of Building 1, on the same alignment as its north wall. An examination of Archive Photograph 41 shows a clay-filled anomaly adjacent to the north-east corner of Room 10 which might be the same feature. Also, in 1976, a trench cut parallel to the north wall of Room 4 located a line of clay believed to have been ditch fill.

If these features are accepted as being contemporary what was their function? There is no evidence that the trackway and ditches crossed the enclosure ditch at its north-west corner. They may have led to a circular house located to the north-west of the later villa since the surveys suggest the presence of a structure here. It is also possible that a spread of cobbles extending north-west beneath Building 3 led to the same building. However, although there is no evidence, the alignment of the trackway may originally have extended further north-west towards a river crossing since it points south of the present location of the bridge over the River Riccal (Fig. 2).



Fig. 9 View west showing trackway and boundary wall north of Building 1. The slit trench shows the location of the earlier enclosure ditch and to the bottom left is the possible external stair foundation on the north side of Room 1.



Fig. 10 Plan of Buildings 1 and 3; the North Range.

Phase 3

A series of other ditches are visible on the geophysical surveys (Fig. 6) but whether they form a third phase or are part of the Phase 2 alterations is doubtful. Crossing the south side of the enclosure, possibly dividing the area into two parts, is another ditch; it is sealed by Building 2. Its west terminal ran towards the opening into the enclosure while the east end certainly ran up to the east bank. An eastern extension of the ditch is indicated by another ditch east of and outside the enclosure; however, it is perhaps unlikely to be contemporary since its alignment changes slightly and it may have been narrower. At right-angles to this ditch, and extending south from it, were another two ditches spaced about 16m apart and possibly forming a series of small paddocks. Thirty eight metres further north, beneath Buildings 6 and 7 is another east-west ditch parallel to that further south and possibly forming a large rectilinear enclosure. Its west side was bounded by the enclosure ditch but the location of its eastern side is not known since it lay outside the surveyed area; it was at least 50m wide.

Period 2
The Pre-villa Masonry Buildings

There is clear evidence for masonry buildings and features pre-dating Building 1 (Fig. 10). Mention has already been made of a possible yard wall running east-west situated to the north of Building 1 but between it and the villa are the remains of a wall orientated north-east to south-west with a northern right-angled return at its west end. It appears to have been sealed by metalling for the trackway and is, therefore, possibly earlier. Its function is uncertain; it might have been part of a building but more likely it was the angle of a walled yard such as is hinted elsewhere on the site (see below). Other features pre-dating the villa include an oven beneath the south-east corner of Room 6, an oven towards the north end of Room 12 (Fig. 11), stone-packed post-holes below the same room and the quern and possible sleeper beam to the north-east of Room 10 (already mentioned).

The geophysical surveys indicate the presence of a circular building to the north-west of Building 1. Another circular house may have been situated directly east of Building 1 because adjacent to its east wall was a circular concentration of metalling which could conceivably have been a floor of a circular house; it does not appear to have been merely a metalled path between structures.

Three other fragments of walls located directly south and west of Room 8, a wing-room situated on the south-west corner of Building 1, may also be earlier. The reason for suggesting this is that structures are unlikely to have been constructed in front of the building blocking its aspect across the yard towards Building 2 and the landscape further south. These foundations may also have formed walled compounds; evidence for yet another was found south-west of Building 2 where a right-angled length of wall was preserved and believed to predate the building. It is tempting to suggest that its east side originally ran beneath the building and turned back west to join another fragment of wall located in a narrow trench north-west of Room 12. The presence of a series of walled compounds having existed before the construction of the villa is further supported by a length of wall immediately south of the villa and appearing to be a verandah. The way it runs obliquely to the villa rules out it having formed part of the same building and a better explanation is that it joined the fragments of walls noted south of Room 8.

Period 3 The Villa Buildings

The lack of excavation beneath the three building ranges makes interpretation of their sequence and dates of construction speculative. Rooms will be described as they appeared in their latest phase although analysis of their plans reveals important clues to their development and indicate that some of them were later inserts. Evidence for this, together with the number of the photographic archive against which the evidence can be checked, is given, as is the dating evidence based on superficial finds.

The North Range

Note: the room numbers conform to those appearing in the interim report (Stead 1971); they are not the same, necessarily, as those given in the site notebooks. The correlation of room numbers is as follows:

Room numbers assigned on excavation	Present numbers
Room I	Room 7
Room II	Room 6
South Corridor	Room 5
Entrance	Room 4
North Corridor	Room 3
Room III	Room 2
Room IV	Room 1
Room V	Room 8
Room VI	Room 10

(Rooms 9 and 12 were not fully excavated in 1969 and, hence, not numbered)

Following the description of each room is a general note of the coins found there. However, these identifications cannot be regarded as wholly safe since they were taken from the site finds register (Notebook No. 9) and not from the detailed coin lists. Unfortunately, with the loss of the coins from the 1969 excavations and the lack of context identifications on the 1969 coin list (p. 65) the simple identifications in the site register is all that is available to us.

Building 1 (Figs. 10 and 12)

Building 1 was of winged corridor plan and measured 37.20m long by 13.00m wide overall. It had a main block of rooms



Fig. 11 Building 1, Room 12. View east showing butressed north wall and earlier oven

and, at either end, south-projecting wing-rooms possibly linked by a verandah. The structure was remarkably well preserved with walls standing almost one metre above floor level in places. They were built of tabular set, roughly dressed, facings of local Corallian sandstone with a rubble core; however, in places, herring-bone facings were used. The walls were bonded in lime mortar with aggregates reflecting the local geology but also including crushed brick or tile (see analyses below, p. 112). A consequence of the remarkable preservation was the evidence for doorways so rarely found on villa sites; they were usually about 1.25m wide and in many cases had the impressions of door-frames flush with each side of the wall and with the core of the wall filling the spaces between the frames up to the door aperture (eg. see plan of Room 2, Fig. 15). Originally they had wooden sills. Also of interest is the large quantity of window glass from the structure in comparison with that from Building 2 (159 fragments compared to 73). However, this difference may be a reflection of the better state of preservation of Building 1 than a reflection of higher status.

Descriptions of Rooms

Room 1

This occupied the eastern end of the building and measured 4.50m wide by 6.40m deep. Its west wall combined both tabular and pitched courses of masonry whereas the other three walls were of tabular construction throughout. For this reason it is possible to suggest that the west wall may have been a later insert and that the areas of Rooms 1, 2, 3 and 4 originally formed a large open room or barn. Its wall at the south-east corner had three neatly dressed quoins indicating that originally this was an external wall and that Room 10 to the east was a later build.

The main entrance was in the south wall; another entrance opened midway along the west wall, into the areas of Rooms



Fig. 12 Building 1, overall view looking east.

2, 3 and 4, but this was blocked at the time of the construction of Room 2 and the recess used for the insertion of a fireplace heating Room 1 (Fig. 13). Access into Room 2 was gained by two steps and a new doorway in the south-west corner of the room; another new doorway communicated with a passage, Room 3, in the north-west corner. The south entrance was blocked but whether this event took place contemporaneously with these alterations is not known. However, as a result of this blocking access was restricted to the entrances in the west wall.

The room was paved with an *opus signinum* floor (which had subsided into the underlying ditch) with traces of quarter-round moulding. Its walls were decorated with painted plaster with traces surviving on all walls especially the north and east walls where the dado comprised a 0.22m high skirting band in pink and above, an arrangement of oblique black lines on a white or cream background spaced about 0.15m apart and joined to one another by black semi-circular lines forming a scalloped pattern (Fig. 58). On the north wall the diagonal bands sloped down towards the left while the diagonal bands on the east wall sloped down in the opposite direction - towards the right; separating the skirting and the 'scalloped' decoration was a horizontal guide line. Considerable quantities of fallen painted plaster were also found in the rubble fill including one fragment painted twice. The primary decoration was red and the second, red stripes on white. Over the floor inside, and directly outside to the south, was a layer



Fig. 13 Building 1, Room 1. Fireplace inserted into earlier entrance. View west.

of organic material 0.05m thick containing a rich assemblage of pottery and finds including seven coins, two copper alloy nail cleaners (LB/BM, Fig. 31, No. 3 and LB/MX (not illustrated)), fragments of a bone comb (from the same comb as Fig. 33, No. 26), a smith's hammer (LB/PK, Fig. 40, No. 97) and two knives (including LB/KY, Fig. 41, No. 119). A complete quern (LB/BT, Fig. 42, No. 132) was found towards the north-east corner of the room which may suggest that the room was being used for milling. The earliest coin was of Constantine and the latest issues were of Valens and Valentinian. South of the south wall was a coin of Maximinus.

Outside the room, built against the north wall, was a large square foundation constructed in four courses of large tabular set stones measuring 2.00m wide at the base and standing about 0.40m high. At the top its width reduced to about 1.70m. The function of the feature is uncertain. It may have been a buttress reinforcing the north wall against subsiding into the earlier ditch, but the ditch is situated further west and it is doubtful that it would cause this part of the wall to fault. A further possible interpretation is that it may have been the base for a water tank but no evidence for inlets or drains were found about it. More likely, however, is that it may have been the foundation for a stair rising into an upper storey. A similar example occupied the north-west corner of Building 1 at Rudston and the explanation for it was that it was possibly the base of an external stair (Stead 1980, 5).

Room 2

This measured 6.47m by 4.11m and was a later insert within Room 4; the east end of the north wall butted the existing party wall separating Room 1 and the west wall butted the south wall. The room was heated by a channelled hypocaust stoked from a furnace in the west wall. To avoid the need to sink the flues below the existing ground level, possibly to avoid water penetrating the system, the hypocaust channels were built onto the existing floor level and the spaces between the flues infilled with rubble and earth. Consequently its floor was about 0.50m higher than the levels of the adjacent rooms (Fig. 14). Its doorway was in the south-east corner and approached up a stone step from Room 1. Tesserae were found between the steps and the wall giving rise to the theory that the room originally had an earlier mosaic but this is unlikely and that the fragments probably dropped into a void when modifications were made to the room in a subsequent phase. Following the blockage of the entrance in the south wall of Room 1, access into Room 2 could only be gained by a circuitous route from the passage, Room 3, although it is possible that the blocking of the doorway is contemporaneous with the later conversion of the room when its floor was cut by a furnace (see below).

Further evidence that the room was a later insert is indicated by the disposition of the box flue-tiles. These were

confined to the north and west walls probably to avoid cutting vertical flues down existing walls. The arrangement of the hypocaust flues (Fig. 15) reflect this in that they are confined to the north side of the room; an exception being a short right-angled flue leading to a box-tile at the south end of the west wall. All the channels were capped with large stone slabs.

The room was paved with a mosaic pavement (Frontispiece and Fig. 16) with a scheme divided into three fields - a central square between two oblongs. The central square contained an arrangement of swastika-meander developing square panels bordered in simple guilloche. The oblong panels were bordered with three strand guilloche and contained a band of inturned stepped-triangles. The mosaic was set within a coarse border comprising out-turned stepped-triangles, plain red bands and a wide margin of cream-grey tesserae.

The mosaic had been patched with mortar in antiquity but was also badly scarred along its east-west axis and across its width on the west side. At first inspection this scar might seem to be the result of collapse of the cap-stones into the underlying flues but this is unlikely since the scar was also associated with four post-holes at the angles where the main east-west and north-south flues crossed. The missing cap-stones appear to have been carefully removed, leaving the channel walls intact, and therefore a possible explanation is that the underlying furnace was modified into a corn-drying or malting oven and that the post-holes held part of its superstructure.

When the mosaic was lifted and part of the underlying hypocaust examined evidence for a north-south foundation was found. It is represented on a single overall plan of the site but not on any detailed excavation drawings or notes. Its alignment coincides with a line of rubble possibly filling an earlier ditch or gully north of the building and shown on archive plan No. 15. Possibly it represents part of the same feature and in the circumstances has not been included as a positive feature in this report although it is possible it was a wall associated with the earlier enclosure walls already described. Found on the floor were fragments of a decorated bone comb (Fig. 33, No. 26). It would appear to be of late fourth-fifth-century date and may have been lost when the room was being used for corn drying or malting. No coins were found here.

Room 3

This measured 7.70m long by 1.50m wide and was a passage. It opened directly off Room 4 but had a doorway at its east end into Room 1. It was created at the same time as the construction of Room 2. No attempt was made to provide the passage with a metalled floor - it was merely rammed clay. On the floor, against the north wall, were two piles of roofing slates which appeared to have been placed there for storage. Its walls once had painted plaster but its decoration could not be determined. No coins were recorded as having been found here.

Room 4 (Fig. 17)

Room 4 measured 4.75m by 6.50m; however, it was originally part of a larger barn-like area incorporating Rooms 1-3. Its first floor surface was of clay which was reddened by nu-

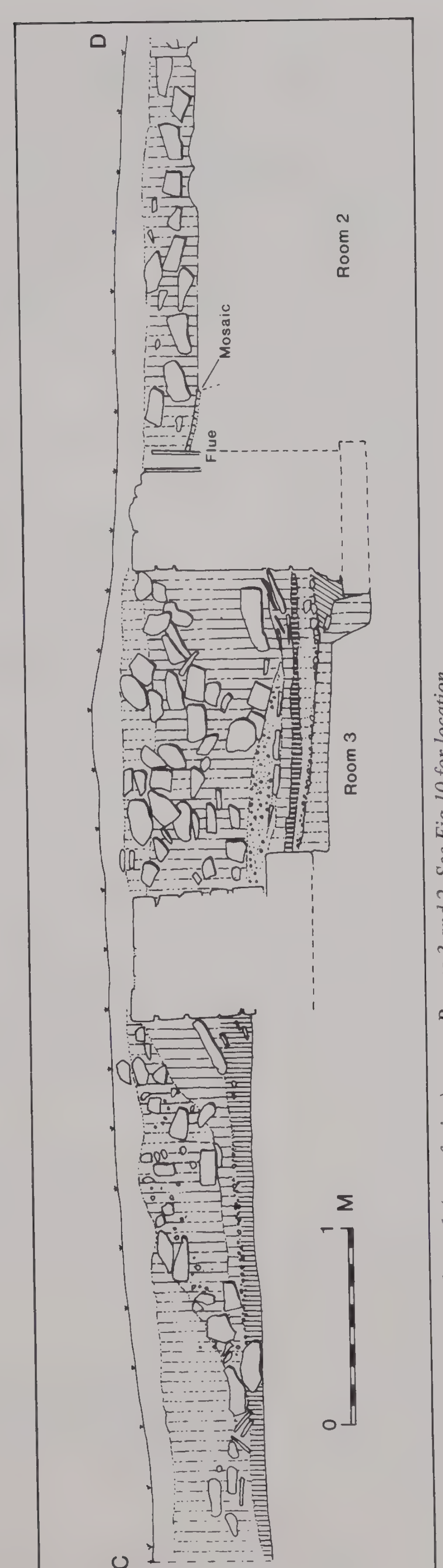


Fig. 14 Building 1, section north-south (west facing) across Rooms 3 and 2. See Fig.10 for location.

merous hearths. On the west side were the remains of two superimposed gravel surfaces predating the insertion of a north-south internal wall. Its entrance was in the south wall and measured 2.30m wide (wide enough for vehicular access) but was subsequently reduced to about 1.50m wide. It was not placed symmetrical to the room but located to the west. A possible explanation for this is that the entrance was the same as that serving the original 'barn' and although it was not symmetrical to either the first or later rooms it was axial to the overall building in that it was midway between the south-east corner of Room 1 and the south-west corner of Room 7.

In the south-west corner of the room was another doorway leading into a passageway, Room 5, and on the east side was the stoke-hole serving the hypocaust heating Room 2. The provision of the stoke-hole in this location demonstrates that the room in its later phase continued to be a working area; the principal access into Rooms 1 and 2 was *via* the south verandah and not Room 4.

Running north-south across the room, cutting the clay floor, was a trench filled with grey blue clay and cobbles similar to the foundations of some of the walls of the buildings. The trench continued south beyond the building, cutting the incoming cobbled path leading towards Room 4 and demonstrates, therefore, that the feature is later. At the time of the first excavations in 1969 the feature was interpreted as a drain, which, south of the building it appears to have been since there were stones set on edge against its sides. Re-examination in later seasons cast doubt on this interpretation; it was then reinterpreted as a robber trench since no trace of any drain-like structure was encountered in the sections excavated within the building. At the north end the north wall of the building had faulted and subsided into the trench. If it was a drain, possibly it was built to collect rainwater from the north side of the building; the ground levels were slightly higher here and damp may have been a problem (for further discussion on this feature see p. 41). In a subsequent phase it was infilled and sealed by a thick black deposit which contained 19 coins, 10 of which were found in the hollow created by subsidence of the trench. Found close to the entrance was a fine copper-alloy nail cleaner decorated with a fish (LB/OW, Fig. 28, No. 2).

Coins from the occupation deposit include (in finds code order):

LB/CP (no identification), LB/LD (Constantius II), LB/OU (Valentinian), LB/OV (4th-century), LB/PQ (Valens), LB/PZ (Gratian), LB/QC (Constans), LB/QU (4th-century) and LB/QY (4th-century).

Coins from the 'trench' include:

LB/RO (4th-century), LB/RP (4th-century), LB/RQ (Valentinian), LB/RS (4th-century), LB/RT (4th-century), LB/RX (4th-century), LB/RY (4th-century), LB/RZ (Valentinian), LB/SA (4th-century), and LB/SE (Arcadius).

Room 5

Room 5 measured 8.10m by 1.50m and was a passageway aligned east-west between Rooms 4 and 7 but with direct access from outside through an entrance, subsequently blocked, in the south wall. The room also served Room 6 to the north. As in passage 3 north of Room 2, the space contained a large quantity of fallen roofing slates but also the remains of a human skeleton (LB/AT) against the north wall. Small finds were relatively sparse compared to the other rooms but included fragments of a bone comb (LB/CB, Fig. 33, No. 27), and a coin (LB/BC) possibly of Valentinian.

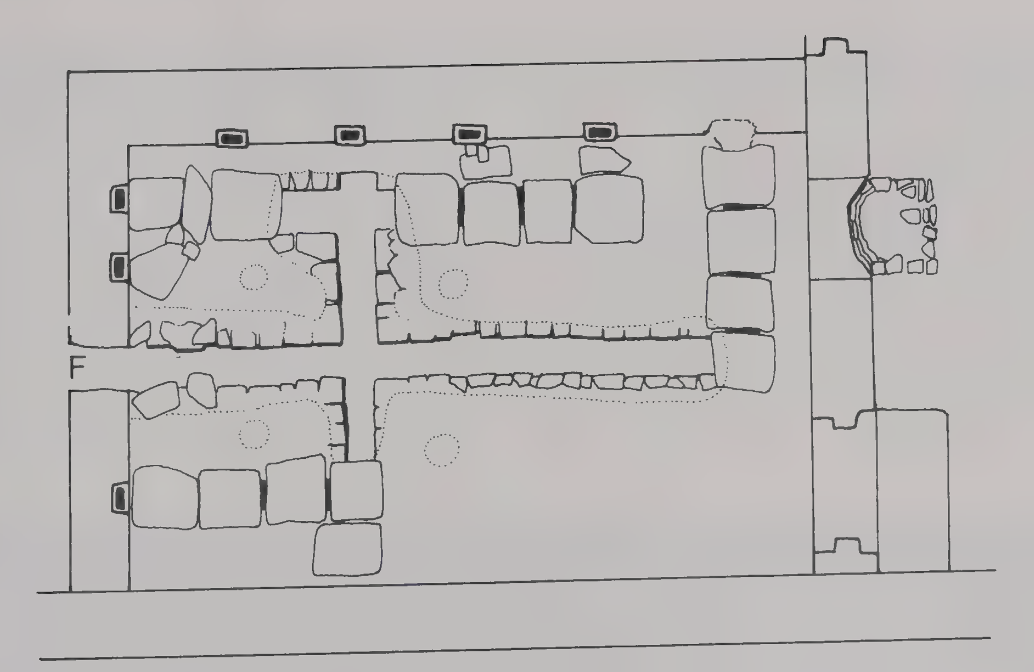
Room 6

The sparsity of finds in Room 5 was more than compensated by the large quantity of finds in Room 6. This measured 8.00m by 4.50m and was entered through a doorway in its south wall, leading from Room 5. Its floor surface was of plain clay and in its west wall was the stoke-hole and flue arch heating the hypocaust in Room 7 (Fig. 8); at the north end of the west wall was a blocked-up entrance into Room 7. Its east wall was constructed in larger blocks of stone than the outer shell of the villa.

It has been suggested by the excavator that the south wall was secondary and that the room originally incorporated the area of Room 5. The reason for this suggestion, possibly, was the axial location of the flue arch in the west wall but also the presence of debris from a clay oven which ran beneath the south-east corner of the room. However, the fact that this debris ran beneath both walls indicates that the oven was earlier and that it was either associated with an earlier phase of occupation as represented by the possible circular trench beneath the floor of the room or that the oven was contemporary with the actual construction of the building when it was little more than an outer shell awaiting the building of its internal partitions.

The room was probably a workshop and, to judge from the number of coins scattered about it, a place of trade. Of particular importance, however, was the discovery of two hoards of iron (Fig. 18) situated close to one another against the south wall. Hoard I contained 37 objects (listed below) including axe heads, saws and chisels (Figs. 35-38, Nos. 51-78) but also folded strips of iron which indicate that the assemblage was scrap. The only object not of iron was a rim from an enamelled bronze bowl with an inscription (Fig. 32, No. 23). Hoard II comprised 16 objects (Fig. 39, Nos. 79-92) including tools, and was also destined for scrap. A spear (Fig. 40, No. 93) was also found in the room together with a writing implement (Fig. 31, No. 1).

Sixty-eight coins were discovered; the finds codes appear in the site notebook (Book 10, 25-9) and provisional identifications, assumed to have been made by P.E. Curnow during a site visit, listed in the site finds book (Book 9). They are too numerous to list individually here and because the identifications are provisional and incomplete they cannot be relied upon for close dating but, nevertheless, the date range of the coins would appear to be consistent with the coin identifications from the East Range (p. 34). The earliest issue is of Caracalla but this is an isolated example; there are no coins of the Tetrarchy and only a single coin of Constantine. Valentinian is represented by at least 15 coins and Valens by four. For Theodosius there are at least six coins with two coins of Honorius and two of Arcadius. They all came from a thick



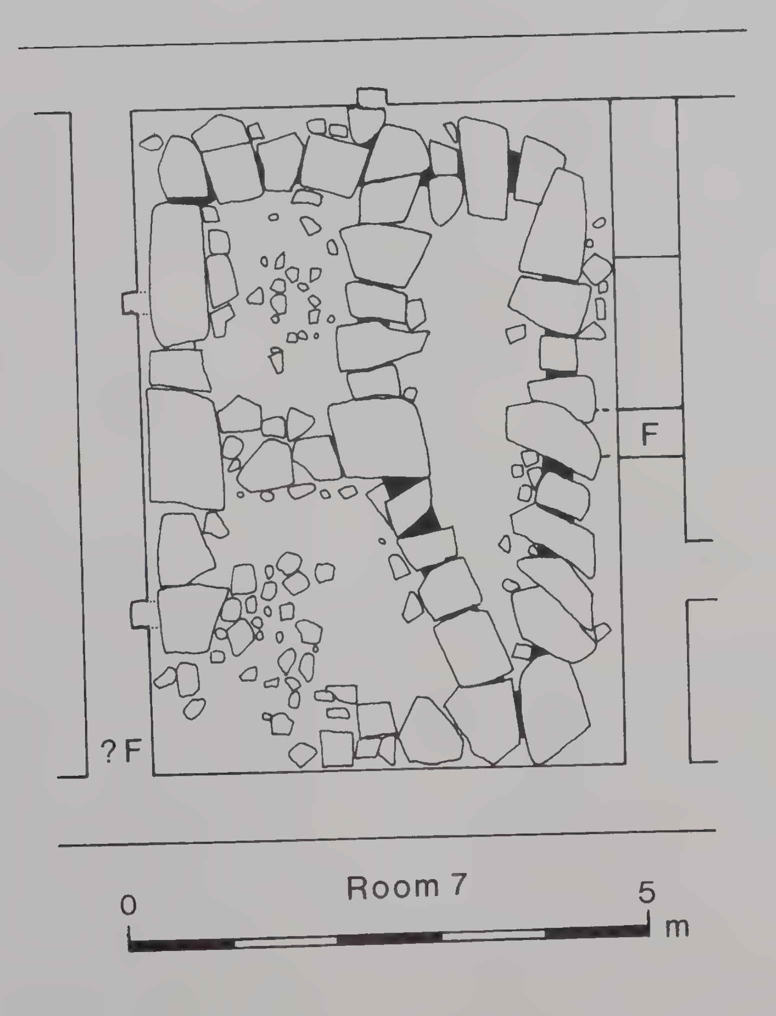


Fig. 15 Plans of hypocaust channels in Rooms 2 and 7, Building 1.

black occupation deposit which extended into the disused stoke-hole.

Room 7 (Figs. 15 and 19)

This occupied the west end of the villa and measured 4.50m by 6.50m. It was paved with an uneven mortar floor sealing capstones overlying a channelled hypocaust heated from a furnace arch located in the east wall (Fig. 8). Two flues were situated in the west wall and single flues in the north and south walls. In form they were unusual in that they were not built with fired-clay box-tiles but faced with flat stones.

Whether the hypocaust was ever completed is questionable; over the rough mortar floor and heaped against the west wall was a thick spread of lime evidently being used for the reconstruction of the buildings. The excavator suggested that the intention was to transfer the furnace to the south-west corner of the room, as no occupation material was found over the spread of lime it must be assumed that both the resiting of the furnace and the room itself were both abandoned. Here the wall had been breached and the floor left incomplete but, nevertheless, the heavy stone footings for the wall were not also removed and it is doubtful whether there was sufficient height above the footings for the insertion of a flue arch. However, the fact that modifications were under way is demonstrated by the blocking of the original flue-arch.

Finds in the room included an unidentified coin (LB/CP) and fragments of painted wall plaster which, if from the same



Fig. 16 Building 1, Room 2 showing the mosaic pavement cut by a corn drying oven. View north.

room, demonstrates that the alterations taking place were secondary as the room is unlikely to have been ornamented before the hypocaust was finished. On the floor was a skeleton of an adult female.

Room 8

Room 8 was a wing-room measuring 4.50m square with a mortar floor of similar composition to that in Room 7. It was contemporary in construction with the main block since its walls were contiguous with those forming Room 7 and its south-west and south-east corners were built on massive stone blocks similar to the technique occurring, for example, at the south-east angle of Room 1. Whether it was ever connected to Room 7 and that it formed part of a double room with responds is unlikely as traces of a floor would have been found over the party wall; since it was robbed there must have been a wall here worth demolishing for its stone.

Cutting the mortar floor was a trench, 'U'-shaped in plan, measuring 3.00m wide overall and with its channels, 0.40m wide by 0.30m deep. The two side arms stopped at the north wall. The function of the feature is not understood. It was suggested by the excavator that the channels belonged to an unfinished hypocaust to be heated from the same system being modified in Room 7. This may be possible but no attempt was made to line the channels with stone and neither was the party wall breached to link the system to the existing flues.



Fig. 17 Building 1, Room 4. Overall view north showing foundation across room.



Fig. 18a Building 1, Room 6. Iron Hoard I (scale in inches).

It is most unlikely that the configuration of the feature, if it was a flue designed to link with those in Room 7, could have functioned effectively since it would have required independent wall flues and chimneys to create a draught. Neither would the system, if it could work, have heated the room since the channel was located to the north and more than one third of the floor area would have remained unheated.

The original idea that the feature was a trench 'possibly for the timber foundations of a subsequent annexe' (Stead 1971, 182) is likely to be a closer interpretation but it is also possible that it held timbers designed to support a structure within the room.

Finds from the room was limited to a sheet of copper alloy (LB/SF (not illustrated)) from the filling of the trench.

Room 9

Room 9 was a wing-room on the south-east corner of the building, matching Room 8 to the west but off-set to Room 1. It was slightly narrower, 4.00m wide, but was poorly preserved due to its west side having subsided into the filling of the earlier ditch; its western foundation had developed a pronounced twist. It was contemporary with the main block since its east wall was continuous with the east wall of Room 10 which was the same build as the north wall of the villa.

A wall dividing Room 9 from Room 10, and on the same alignment as the south wall of the main range, was later, since it was built over the footing of the east wall. This indicates that the room was demolished (probably due to subsidence), but it is assumed an earlier wall, or doorway, existed at this point otherwise the two rooms would have been open to one another which is unlikely. The only part of the original structure left standing was the east end of the south wall and part of a mortar floor in the north-east corner.

The collapse and subsequent demolition of the wing room is curious in that no evidence was found for serious subsidence within the main range. An explanation is that the ditch was backfilled with heavy clay beneath the main range but this precaution was not observed beneath Room 9 where the filling of the ditch was softer and of brown earth. If so, this might indicate that the construction of the wing room, although intended from the start, was built during a second stage in the building programme. Evidence for this was also possibly found in Room 10.

Apart from pottery, finds from the floor of Room 9 included a single bronze coin (LX/FW, a 'barbarous radiate') and worked animal bone indicating the possibility that the area was being utilised for the manufacture of bone tools. Near the dividing wall between Room 10 was a large irregular stone with a hole. It was possibly a door pivot.



Fig 18b Building 1, Room 6. Iron Hoard II (scale in inches).

Room 10

This was a passage-like room on the east side of the building measuring 2.00m by 6.75m; it was excavated in 1969 and 1977. It has been suggested by Finney (1994) that it was a later addition and that the junction of the walls of Rooms 1 and 10 had been skilfully bonded and the original quoins removed. She also notes that the footings here change from sandstone in Room 1 to limestone in Room 2. It would appear, therefore, that the wall of Room 10 is a later build. However, as recorded for Room 9, there is no reason to assume, necessarily, that the room was not intended from the start of the building programme but added following the construction of the main block. A reason for suggesting this is that it is not only symmetrical to Room 11 on the western side of the building but also because its offset of large stones is identical in construction to those elsewhere in the structure. Its north-east angle was also provided with a large stone quoin typical of the other corners of the building.

The floor was of clay and against the west wall was a pile of coarse tesserae presumably surplus to requirements following the construction of the border around the mosaic in Room 2. They are unlikely to be displaced from the mosaic following the insertion of the possible corn-drying oven as the collection would also have included small tesserae which it did not. Other finds in the room include two coins: a fourth century issue (LB/RV) from the robber trench of the east wall and another (LX/FK) from the room itself.

Room 11 (see below)

Room 12

Room 12 was situated on the west side of the villa matching Room 10 on the east side. It was of similar proportions but unlike Room 10 it had no direct link to the southern wing-room (Room 8). Only the lowest footings for the west wall were found and comprised rammed clay and stones without traces of mortar typical of robber trenches on other parts of the site. Furthermore the north wall comprised a buttress-like projection (Fig. 11) which had been faced on its west end. The implication is that the room was never finished and supports the evidence found elsewhere that the villa was built in



Fig. 19 Building 1, Channelled hypocaust in Room 7. View north.

stages. The evidence from Room 7 that changes were being made to the hypocaust and its furnace blocked has already been recorded. It is most improbable that the room was intended to screen the projected furnace (Finney 1994, 27).

Evidence for occupation earlier than the villa was also found beneath the floor where there was the remains of an oven and at least three stone-packed post-holes (Archive Photograph 64).

Room 11

This was the corridor or verandah along the south side of the villa. Its wall only survived on the east side but traces of a robber trench for the west wall can be seen on archive photographs. Midway along the corridor was a north-south wall which once formed the east side of an imposing entrance, directly south of the doorway into Room 4.

There is evidence that modifications were made to the corridor where, directly in front of the doorway into Room 4, was a right-angled row of stones possibly a sill to a timber porch. It post-dated the 'foundation' cutting across Room 4 and the incoming cobbled path. Perhaps the earlier corridor went out of use when Room 9 was demolished due to subsidence.

Ten coins (without individual identifications) were found within the area of the porch and the courtyard directly adjacent. A further five coins was also found at the east end of the corridor outside Room 1.

The date of construction for Building 1 is uncertain since hardly any excavation into earlier deposits was undertaken. The same comment can be made for Building 2 described below. However, even though the identifications of the individual coins from these structures is not known, the overall list of coins found at Beadlam up to the 1969 excavations, featured in the interim report (Curnow 1971) and reproduced here on page 65, is probably a reliable indicator of coin loss. Out of the 193 coins identified, only five are of the second century and only 13 of the third century. Third-century coins, particularly of the Tetrarchy, are usually prolific as site finds but are noticeable here by their relative scarcity especially when compared with issues of the fourth century. For the first half of the fourth century, up to the reign of Valentinian I (A.D. 364), 78 coins are identified. For the House of Valentinian 55 coins have been identified and for the reign of Theodosius I, 42.

The West Range

Building 2 (Fig. 20)

Note: the room numbers conform to those given in the interim report (Stead 1971, 183). The correlation of the 1969 excavation room numbers and the present room numbers is as follows:

Room numbers assigned on excavation	Present numbers
Room 1	Room 1
Room 2	Room 3
Room 3	Room 2
Room 4	Room 4
Room 5	Room 6
Room 6	Room 5
Room 7	Room 9
Room 8	Room 10
Room 9	Room 11
Room 10	Part of Room 12
Room 11	Room 13
Room 12	Room 12
Entrance passage	Room 1

(existing Rooms 7 and 8 were not numbered in 1969)

Building 2 was first located in trial trenches in 1966 and fully excavated in 1969; it shared the same depth constraints imposed on the excavation of Building 1 and, therefore, earlier levels were not investigated. The north-east corner of the building lay about 5.25m south-west of Building 1 with its east side in line with the west wall of Room 12. As with Building 1, it was of winged-corridor plan with a main block of rooms with east projecting wing-rooms linked by a corridor or verandah facing onto the courtyard. The south end of the building incorporated a bath-suite (Fig. 21) which was later extended south; the original length of the building was 23.40m and its overall width 12.40m. An immediate observation is that its plan is more typical of the standard winged-corridor villa than Building 1 and if it were not for the status indicated by the presence of the mosaic in Building 1 with its south-facing orientation, Building 2 might possibly have been designated the main house (for further discussion see p. 42).

Its preservation was poorer than Building 1 and much of the structure had been robbed, especially the east wall of the main range. However, sufficient evidence was preserved to deduce that it was possibly constructed at the same time as Building 1 since the method and materials of its construction was similar especially the use of large stone quoins. However, the position of one of these quoins might indicate that the bath-suite was originally an isolated bath-house. This possibility is discussed further below (p. 42).

A total of 49 coins were found on the excavation of the building but most of them are from unreliable contexts and, as with the coins from Building 1, we only have provisional identifications given in the site finds book (Site LA). Many of the entries are merely listed as 'coin' and are of no help, therefore, in establishing relative coin losses. The earliest issues are coins of Hadrian (A.D. 117-38), Julia Domna (Septimius Severus, A.D. 196-211), and a 'radiate'. It is in the fourth century, however, that the rate of coin loss leaps with issues of the Houses of Constantine I and Valentinian I. Unlike the East Range the number of coins then drops dramatically with only one coin of Theodosius identified.

Description of Rooms

Room 1

In its original form this measured 4.25m by 4.00m. Its first floor was of *opus signinum* with quarter-round mouldings against the walls. It was first interpreted as the main entrance and *apodyterium* of the bath-suite probably due to the presence of a step against the north wall within the verandah (Room 14). However, this interpretation is almost certainly wrong and it is probable that the room was a plunge-bath. The reason for suggesting this is that the room was later lined on at least three sides with a construction described as a bench. A new *opus signinum* floor was laid together with new quarter-round mouldings. *Opus signinum* floors are invariably associated with surfaces requiring waterproofing and the fact that the original room was relined, strongly suggests that it was leaking. Further evidence that it was faulting was the provision of another foundation running the full length of the east wall. This evidence, by itself, does not confirm the room to have been a plunge-bath but the sequence of new floors, new linings and the need for external walls can be paralleled on many other villa sites including, for example, Room 13 at Gadebridge Park (Neal 1974, fig. 8), and Room 18 at Lullingstone (Meates 1979) where the plunge-baths suffered similar problems. At Beadlam the original seat for the bathers would have been situated on the party wall shared by Room 2; the later bench was indeed a seat but it was also a device to prevent leakage. A third floor is recorded as having sealed the bench (Stead 1971, 182). This floor is probably associated with a much later phase of the building when the bath-suite had gone out of use; it would also explain the step outside the north wall which would now be required to reach the level of the new floor; presumably a new door was made in the wall at this point.

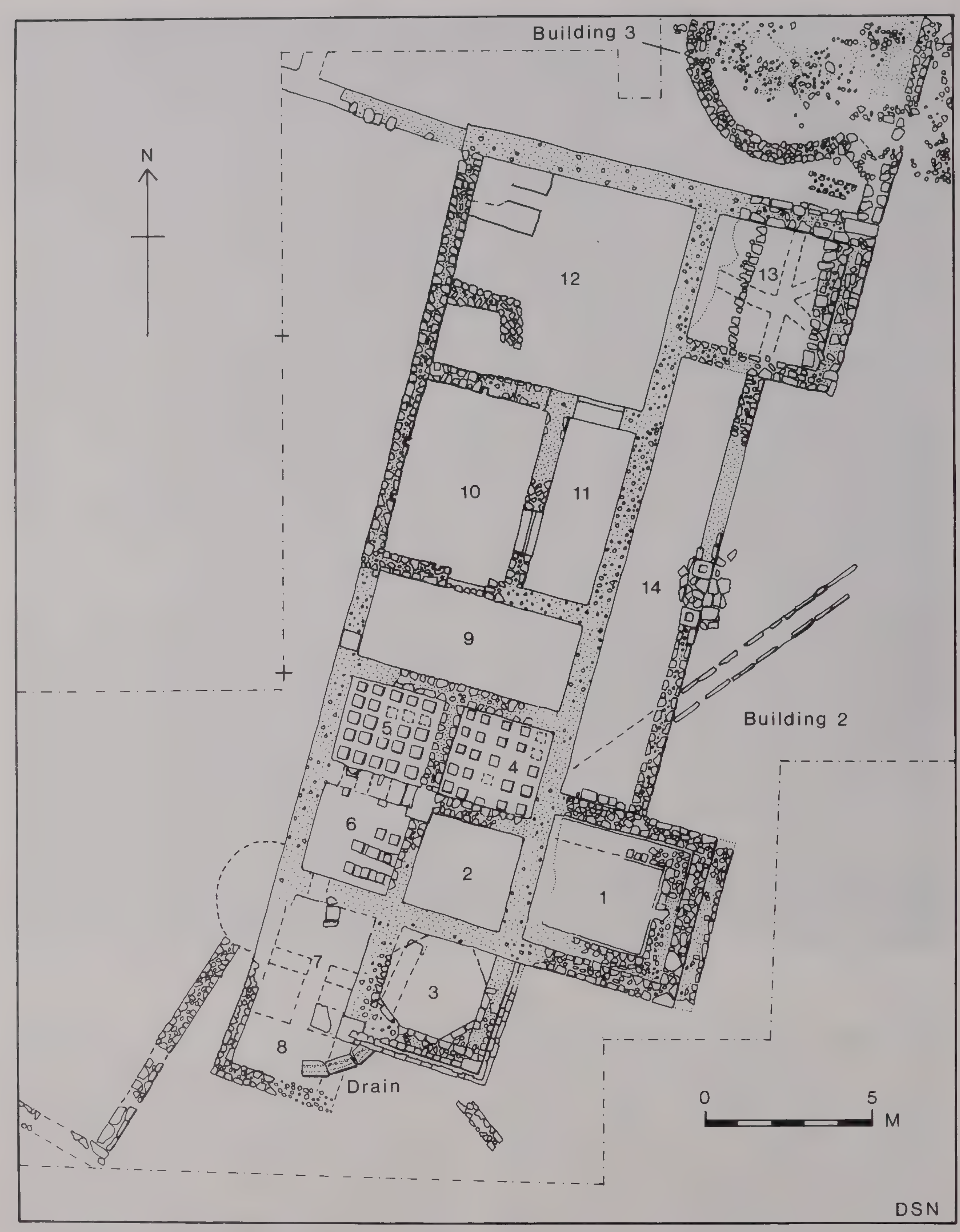


Fig. 20 Plan of Building 2, the West Range.

Eleven coins were found in levels associated with the latest phases and include LA/FP (Constans or Constantius II), LA/FR (Constantine I), LA/FU (Constantius II), LA/FX, LA/FY, LA/FZ (all unidentified), LA/GL (Constantine I) and LA/GP (barbarous fel temp).



Fig. 21 Building 2, overall view looking north.

Room 2

Room 2 measured 3.00m square and was located west of Room 1. It was probably open to Room 1, but divided from it by a seat; it was, therefore, part of the *frigidarium*. It was paved with a mortar floor; this was not lifted but it is likely to have sealed a drain leading south and located beneath the floor of Room 3. Possibly, it served a cold douche but since the level of the floor was the same as the floor of the plunge-bath in Room 1, it is equally possible that an outlet existed at the bottom of the seat and the waste directed into a pipe joined to the drain. A late feature is recorded as having cut the robber trench in the south-west corner of the room; perhaps this feature was created when the drain was robbed.

Room 3 (Fig. 22)

Room 3 was constructed against the south wall of Room 2. It was a plunge-bath and almost certainly a later addition to the bath-suite. Its foundations had a double offset. Inside, the angles of the walls had diagonal benches resulting in the actual plunge-bath being octagonal (the diagonal benches on the north side were largely destroyed but sufficient survived to demonstrate their existence originally). The walls were once lined with *opus signinum*; found amongst the rubble in the south-east corner was a large fragment that lined the surface of the bench since its shape reflects the angle of the seat and the wall. It had two layers of plaster which suggests that the bath may have suffered the same problems as the larger plunge



Fig. 22 Building 2, the bath-suite. View north.

in Room 1 and required resealing. A bench or step must have separated the bath from Room 2; a similar arrangement to that postulated between Rooms 1 and 2. A stone drain from Room 2 was discovered beneath the floor but the actual drain for the plunge-bath was towards the south-west corner where a hole for a lead pipe was found; it probably flowed into the existing drain since this outlet was retained, as evidenced by the way the foundations for the plunge-bath were carefully bridged over it (Fig. 23).

Room 4

This measured about 2.75m square and contained tile *pilae* arranged in five rows of five and surviving a single course. They must have related to an earlier phase, however, since there was no evidence for flues in any of its walls. The room was probably part of a *caldarium*, originally, since the excavator records the presence in the north wall of a blocked up flue arch partially concealed by the west wall. Presumably Rooms 4 and 5 were originally one.

Following the abandonment of the hypocaust and the removal of its floor and *pilae*, the space was filled with rubble and a new floor constructed on top. The close proximity of the room to the corridor might suggest that it was converted to an *apodyterium*.

Room 5

As stated already, this room was probably part of Room 4 originally, with that room later being sub-divided by a wall



Fig. 23 Building 2, the plunge-bath, Room 3, with drain on south side. View north-west.

which blocked a flue arch in the north wall (Archive Photograph 77). Its dimensions were the same as Room 4 but it had been robbed extensively down to its lower floor where the remains of tile *pilae* arranged in five rows of five survived. The *pilae* were a larger type than used in Room 4 and indicate that they must have all been replaced when the room was converted. Since the room once had a separate source of heat, possibly it was a *laconicum*. It now became a *tepidarium* and was heated from the south where the party wall separating Room 6 had two main flues divided by stacks of tiles; these were designed to support a partition wall above the upper hypocaust floor.

Room 6

Room 6 measured about 2.70m square but only its east wall survived extensive robbing. Towards the east side of the room a number of pilae were preserved including two continuous piers constructed with *pilae* tiles. This may have been reinforcement to a floor collapsing into the hypocaust system below but, more likely it was constructed to provide support to a tank or *testudo* mounted above. It was possibly set against the east wall to supply hot water to Room 2. The south wall was also robbed but there was slight evidence of a flue passing through it from Room 7; the room was probably a *caldarium*.

Room 7

The area of Room 7 had been thoroughly robbed - neither walls nor floors survived. Its function, therefore, is uncertain but since the room measured only 2.70m wide by possibly about 1.40m north-south it is likely to have been a hot plunge-bath. The furnace was to the south but a flue is likely to have passed beneath the bath to heat the *caldarium* in Room 6. Built against the west wall room was a semi-circular feature; it was thoroughly robbed but is interpreted as having been a hot plunge-bath also.

Room 8

The west and part of the south wall of this room survived. It measured 3.00m by about 3.40 and is likely to have been the *praefurnium* housing the furnace to the bath-suite. Against

the north wall was a pair of rectangular foundations on either side of a flue. It was almost certainly a boiler stand; the sides of the flue were burnt. The stoke-hole contained an iron animal bell (Fig. 40, No. 96) which contained environmental material which was examined by M.J. Allen whose report appears on page 115. In summary it contained carnivorous terrestrial mollusc which had been feeding, perhaps, on a rotting carcass although no evidence for an articulated skeleton was found in the same deposit. There is a slight difference of alignment between the west wall of the room and the west wall of the main building. Possibly this is evidence for Room 8 (and possibly Room 7) being a later addition.

Room 9

Room 9 was a lobby separating the bath-suite from living apartments to the north and was connected to the verandah on the east side. Its floor was concrete and in its north wall was an entrance into Room 10. As already noted, there was evidence for a flue-arch in its south wall, heating Rooms 4 and 5, so presumably, in the early history of the baths, this area was a *praefurnium*. However, set into the west wall was a very large stone block which on other parts of the site are usually used to support quoins at the angles of buildings. This being so, possibly the south wall of Room 9 was originally an external wall and the furnace heating Rooms 4 and 5 was once outside the building.

Room 10

Situated to the north of Room 9, this room was orientated north-south and measured 3.80m by 5.20m. The presence of flues in the north, south and west walls indicated that the room must have had a hypocaust but whether the existing concrete pavement with its quarter-round mouldings sealed a heating system was not confirmed as the floor was not removed. However, there was no evidence for collapse of the floor into any voids below and neither was there evidence of any furnace located at that level although towards the east side of the north wall the photographs (Archive Photograph 39) indicate that the courses of masonry here are not continuous and that possibly this was the original location of the furnace. It is the writer's conviction, therefore, that the present pavement is secondary and once corresponded in level to the lower hypocaust floor. If so, it follows that the doorways in the south and east walls were secondary also. Certainly the function of the room changed since the hypocaust flues were filled with stones and covered in red painted plaster forming a dado; the stones filling the north flue had fallen out as a single, concreted, mass and were found on the floor close-by.



Fig. 24 Building 2, verandah entrance. View west.

It should be noted that all the hypocausts in the bath-suite had their lower floors built at about ground level and not sunk into it. The same situation occurs in Room 2, Building 1, where the mosaic floor over the hypocaust is at a much higher level than the adjacent rooms and required steps to reach it. An explanation for this, apart from the bother of having to excavate a pit, or dig trenches if the system is a channelled type, was to make the floors as high as possible to avoid ground water penetrating the systems and causing an excessive build-up of steam that might damage the structures. Stead (1971, 183) noted that the walls of the room survived much higher than those of the adjoining rooms, and it may well be that the room retained a function after the rest of the building had been demolished.

Room 11

Room 11 measured 2.00m wide by 5.25m long and had a concrete floor. It was a passage with four doorways, one to the south (robbed) leading into Room 9, another in the west wall joining Room 10, a third in the north wall leading into Room 12 and a fourth (robbed) through the east wall joining the verandah. Its arrangement was very similar to Room 5 in Building 1.

Room 12

This was the largest room in Building 2 and measured about 6.40m square. It was located at the north end of the building and was originally paved with a mortar floor which had been patched frequently. It also had floors of compacted clay and



Fig. 25 Building 3, overall view looking south.

in the north-west angle of the room were two rectangular areas of masonry believed to have been the supports of a large oven. At the south-west corner was an L-shaped stone foundation of an irregularly built wall but this had been built over a substantial deposit of earth 0.50m thick and was a much later feature. Its top level of surviving stones was burnt. The function of the feature is not understood; the fact that its east wall does not meet the south wall of the room would suggest this gap to have been an entrance and that the feature was an animal pen but for this it was perhaps too small as it only measured about 1.40m wide internally. Nevertheless, it could have been a pigsty.

Whatever the function of the feature, the evidence suggests that the activities and life-style taking place in the room was possibly no longer commensurate with the original status of the building since it contained much food debris including animal bone, and mussel and oyster shells; little attempt seems to have been made to keep the area tidy. Finds also included a piece of jet (LA/AK), glass (LA/HT) and two coins (LA/FW (unidentified) and LA/HZ (Theodora A.D. 337-40)).

Room 13

This was the north wing-room; it matched in both size and shape Room 1 further south. The north-eastern angle of the room was reinforced by a large sandstone quoin and from this point a boundary wall ran north to join the south-west corner of Room 12 in Building 1. It had the remnants of a concrete floor which partly sealed a channelled hypocaust stoked from the remains of a furnace in the north wall. At a later date modifications were made to the room when an internal wall was built alongside the east wall and a north-south aligned kerb of limestones on edge constructed towards the west side.

The function of the internal wall and kerb are not understood and neither, necessarily, are the two features contemporary. Nevertheless, it is tempting to suggest that they may have formed part of a corn-drying oven and that the original hypocaust flue was reused.

Amongst the finds were tesserae although whether the floor was tessellated originally was not established.

Room 14

Room 14 was the eastern verandah and was built over a possible water inlet lined on each side with large sheets of stone. It ran north-east to south-west towards the bath-suite. The verandah measured 2.00m wide by 13.40m long and midway along its east wall were two large squared blocks flanking an entrance (Fig. 24). They were spaced about 1.00m apart and in their upper surfaces were shallow squared sockets intended to secure more blocks on top. Between the stones was a flagged pavement although no pavement survived within the actual verandah. It may have been removed when the verandah wall was later dismantled and the area metalled. Conceivably, the step up into Room 1 relates to this phase.

Building 3 (Fig. 25)

Building 3 was partly exposed in 1969 and fully excavated in 1976. Unfortunately no notebooks survive for the area but the photographic archive is complete (Archive Photographs 162-92) and provide a clear impression of the structure. It was situated directly west of, and partly over the west wall of Room 12, Building 1, and north of Building 2. Between Buildings 1 and 2 was a boundary wall (possibly with an entrance), which was utilised for the east wall of Building 3. A short length of wall continuing the east-west line of the south wall of Building 1 was also earlier.

Building 3 was almost oval in plan; its north and south sides were semi-circular and its west side slightly curved; its east side was not also curved because of the incorporation of the existing wall. It measured 5.90m wide by 9.60m long with walls constructed in irregular limestones without foundation trenches. On the south-east side the semi-circular wall turned sharply south-east to butt against the existing boundary and to form one side of the entrance. Inside was a metalled floor with larger irregular flags towards the north; running diagonally across the floor was a row of stones - possibly a foundation for an internal partition. On the north side was the remains of a foundation looking like a buttress.

Whether the structure was an open pen or covered is uncertain but its shape need not preclude it having been roofed. A few roofing tiles were found inside but it is unlikely this form of covering would have been used for such a simple structure. More likely the building was thatched. The side walls are likely to have supported rafters tied to a simple ridge-plate which would have given support to rafters over the curved walls. There was no evidence for, and nor would the roof have required, any internal supporting posts.

The rubble and deposits within the building contained much food debris including animal bones and oyster shells. This, together with broken pottery and glass would strongly suggest that the building had a domestic use. Small finds included a copper alloy ring (LA/CO, not illustrated) and three bronze coins (LA/DQ (unidentified), LA/DS (?barbarous fel temp), LA/EA (Constans).

The East Range (Fig. 26)

This range was partly exposed in trial trenches in 1966 but it was not until 1972 that major work took place with the excavation of Buildings 4 and 5. Buildings 6 and 7 were excavated in 1978 and Building 8 examined the same year - although its west wall was discovered during the first season of trial trenching. Further work was undertaken on Building 6 in 1978.

The range has a complex sequence of development and even though the depth of excavation was restricted, four or five phases can be established from a study of the plan. Its development is further confused when questioning the relationship of the complex to unexcavated buildings situated to the west and located by the geophysical survey. To the west an almost square structure, Building 10, had its west wall on the same alignment as the east wall of Room 10 in the North Range - a similar situation to the West Range where the east wall here was aligned on the west wall of Room 12. Possible explanations for this will be given in the Discussion. The dominant alignment in the East Range is a north-south wall which

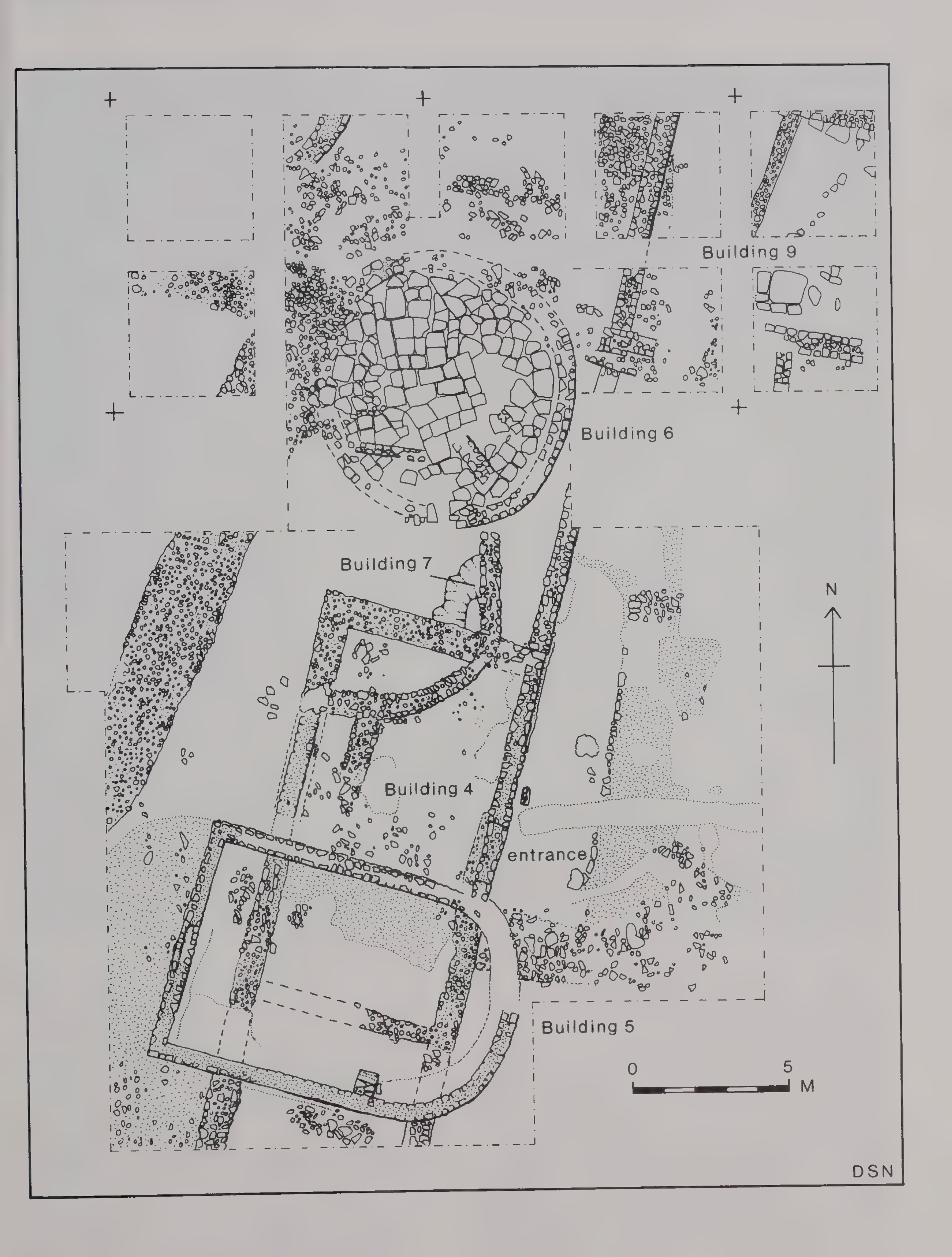


Fig. 26 Plan of Buildings 4-7 and 9, the East Range.

may predate a sequence of masonry buildings including a rectangular structure, Building 4, and an apsidal building, Building 5.

However, as with the North Range, there are features that may pre-date the masonry buildings. For example, beneath the north wall of Building 4 was an irregular-shaped pit; it was first interpreted as possibly being a corn-drying oven since it contained a large quantity of roofing tile, including fragments of comb-patterned box-tiles, and clay, all of which had been burnt. Subsequently the feature was interpreted as a dump. There is no evidence that any buildings in the East Range were hypocausted so the material could have been cleared from Buildings 1 or 2 although it is possible the debris came from a kiln for the production of tiles used in the construction of the villa. The excavator also thought that the pit may have formed part of a deeper feature; this deduction is probably correct since photographs (for example Archive Photographs 235-7) show a band of stones running south roughly parallel to the adjacent east wall of Building 4. This material is likely to be filling the same feature.

Another feature possibly earlier than and east of Building 4 was a stone 'kerb' (Fig. 27) about 10.00m long. On the east side it was associated with a surface of gravel and to the west a surface of fine earth which may have been the bedding, originally, to a series of irregular-shaped stone flags, fragments of which were found on the surface including one towards the south end. The excavator believed it to have been a lean-to against Building 4, and so it might, but it must be pointed out that it was not parallel to the wall but veered towards it to the north as much as 0.85m. Its relationship to the wall can be in little doubt since at the south end it was crossed by a metalled path leading up to the east wall of Building 4 demonstrating that this was likely to be later. The function of the 'kerb' is uncertain but possibly the stones acted as a sill for a sleeper beam and the feature was a wall. The interior may have been on the west side where there was a stone hearth.

Yet another feature possibly earlier than the building range was a curved gully which showed up on the surface of the gravel to the east of the 'kerb' as dark brown soil. The relationship of the feature to the gravel must be questioned, however, since it is possible the feature is a negative feature and that it results from the slumping of the gravel floor into an earlier ring-ditch - although this idea must remain supposition without further excavations. Had it been a structure its diameter would have been about 8.00m.

Returning to the masonry buildings. The north-south wall can be traced from the north-east corner of area D12 to the south-west corner of area F12 and beyond. If the line of the wall is projected north it coincides with the east end of the east-west wall in area B13 and it is tempting to suggest, therefore, that the wall originally represented the boundary of the villa enclosure (whether, in fact it actually met the east-west wall is doubtful since a trackway is postulated to having crossed the area so perhaps it stopped short of this). Building 4, a rectangular structure, was built on the west side of the wall with its east wall sharing the same alignment. There is evidence that the boundary wall may have been constructed earlier than Building 4 since its foundation of limestones had two phases of construction in places; possibly it was this boundary that influenced the orientation of the building.

The date of construction of the individual buildings is uncertain since no dating evidence was found beneath them. However, a large assemblage of coins was recovered from the occupation levels and destruction debris which provides clear evidence for the latest occupation of the structures. For example, at least 27 coins were found associated with Buildings 4 and 5 (it is not possible to isolate individual coins from the occupation of Building 4). The earliest issue (LC/CO) is a coin of Severus Alexander, A.D. 222-35, followed by a coin of Victorinus, A.D. 269-71 (LC/EV). However, there are no early Constantinian issues, two coins of Constans and Constantius/Constans (LC/BH and LC/CF respectively) of A.D. 347-8 are followed by a high proportion of coins of the House of Valentinian and the House of Theodosius indicating a very late occupation. A similar situation applies with Building 6. This had at least 19 coins, either from occupation deposits or in the plough-soil above. The earliest identifiable coin is an issue of Carausius, A.D. 286-93 (LM/AJ), followed by a coin of Constantine I (LM/HQ), A.D. 333-4, and one of Constantius II (LM/LW), of A.D. 347-8. The remainder are later fourth-century coins of House of Valentinian and Theodosius indicating, in all probability, that the structure was occupied into the fifth century. However, a word of caution must be expressed since if this was the case then it would indicate that Building 7, which was constructed partly on top, was probably built in the fifth century. There is no reason why this should not be so but it is always possible that the late deposits over Building 6 were really associated with the occupation of Building 7.

Building 4 (Figs. 27 and 28)

Whether the boundary wall existed prior to the construction of Building 4 is hypothetical. However, the east wall of the new building shared the same alignment and was constructed on a foundation of rounded, pitched, river pebbles set in clay supporting walls of limestones with calcareous gritstone quoins. The pebbled foundation was observed beneath the north and west walls as far as the southern edge of the excavation and therefore an east-west foundation of limestone is unlikely to be the south wall of the building but a partition dividing the building into two parts. The size of the building, therefore, is uncertain but it was at least 18.00m long by 7.75m wide overall (the geophysical plots do not show its full extent). However, there is circumstantial evidence that its south wall may have turned directly beneath the excavator's baulk and that the building was about 18.40m long. The reason for suggesting this is the presence of a metalled pathway approaching the east side of the building. It is likely to have been axial to its length and to have served the building before it was later converted by the partition into two. A new entrance for the northern part of the building was then inserted through the existing wall midway along the new room which measured 6.40m wide by 11.90m long. The new entrance was 1.20m wide but was subsequently blocked with pitched limestones (Archive Photograph 252).

The floor of the building was originally paved with stone flags bedded in orange clay. Unfortunately, most of the flags had been removed but a single example was preserved in the



Fig. 27 The East Range. Detail of features to east of Buildings 4 and 5. View south-west.

north-east corner (Archive Photograph 267). Other features possibly broadly contemporary with the building were a stone-packed post-hole in the north-west corner and a large rotary quern (location in building not established) with a diameter of between 1.00m-1.25m. Whether this was being reused as paving is a possibility but a stone of this size must have been a mill and not a hand quern. It follows, therefore, that one of the buildings in the complex was being used for milling (for further discussion see p. 43). A stone loom or thatch weight (Fig. 42, No. 123) was found east of the building.

Building 5

This replaced Building 4 most of which was demolished. The new building was rectangular and measured 11.20m by 7.90m overall. Its walls were constructed in tabular blocks of limestone bonded in lime mortar and measured about 0.60m wide (their lowest course was slightly broader and acted as an off-set) set on a foundation of clay and stones almost a metre wide. At the west end was an entrance 1.25m wide with the impression of a wooden sill and on the east side, a shallow apse. A lime slurry pit located over the earlier floor to the north was probably associated with its construction. In the south-west corner of the building was a mortar floor which sealed the west wall foundation of Building 4. It is possible that the mortar was the bedding, originally, to a flagged floor which had been robbed. On the mortar were small stone chips suggesting that they may have fractured from a pavement when it was being lifted.

Built on the inside of the south wall was a rectangular foundation. It was constructed in limestones but also incorporated a larger block with a runnel similar to the drains found in the Western Range. The function of the feature is uncertain but it may have been a respond dividing the apse from the main area of the building. However, a corresponding feature would also be expected to be set against the north wall but no trace of one was recorded, nor can be seen on the photographs. Along this side of the building was a surface of uneven cobbles; both this and the rectangular foundation are assumed to be later features.

A significant feature related to the overall layout of the complex is the presence of entrances into Building 4 being on the eastern side, whereas the entrance into Building 5 was on the west. Reasons for this are expounded more fully in the Discussion (pp. 42-3) but it is clear that Building 4 was focused on a yard east of the boundary wall whereas Building 5 was focused on the main courtyard west of the boundary. Repairs to the boundary wall and blocking of entrances (see below) further indicate that the two areas were separate units.

The Boundary Wall (Fig. 26)

Reference tó the boundary wall having possibly predated Buildings 4 and 5 has already been made. However, with the demolition of Building 4 it is almost certain that the east wall



Fig. 28 Overall view of Buildings 4 and 5. View north.

of the building was only partly dismantled and used to create an extension of the yard wall to the north and south. The reason for suggesting this is that where the foundations and walls of Building 5 breached the earlier east wall of Building 4 the new clay foundations were sealed on both the north and south sides by an infill of masonry which closed the gaps that the foundation trench had created (similar infilling did not occur on either side of the original west wall). Unless the earlier wall was retained this situation would not have occurred. Further clues that the east wall of Building 4 became an extension of the yard wall was the fact that the secondary doorway into it was also blocked; this is unlikely to have happened during the life of the building since the blocking sat on the latest deposits within the building. Nor would it have been blocked if the boundary was destined to be demolished.

Building 6 (Fig. 29)

Note: the archive notes and post-excavation plans record this as Building 7 but since it is almost certainly earlier than Building 7 the numbering has been transferred.

This was a circular building situated to the west of the courtyard wall with its east side separated from it by about 0.50m. It was slightly oval; its north-south diameter was 9.00m and its east-west diameter about 8.40m. Its walls were 0.60m wide and constructed in tabular limestone facings with a rubble



Fig. 29 Overall view of Building 6. View north.

core. It had the finest stone floor found in any of the buildings; it comprised a series of rectangular flags which in the centre and north side of the building were fairly carefully laid. However, to the east and particularly the west the flags were more irregularly set. Whether this was coincidence or evidence for repairs is uncertain. The pavement was also scarred in three places towards the east and south but the photographs (Archive Photographs 301-4, for example) are not sufficiently clear to confirm whether these breaks may have been the position of post-holes (but see below); they were not excavated. The entrance was on the north-west side where there was negative evidence for an opening since metalling, an extension of a nearby path, impinged slightly into the structure. The width of the entrance cannot be determined with accuracy.

There were the fragmentary remains of two foundations built over its floor; one was constructed in irregular-shaped stones while the other was neatly built of limestones with facings. The former is almost certainly part of the north wall of Building 7 but the other may well be contemporary with the structure. Its orientation was south-east to north-west and appears to have been a radial partition. The facings on the south-west side of the wall were missing at one point, a point coinciding with one of the scars in the underlying pavement. Possibly the wall incorporated vertical posts.

From the relationship of the metalling encroaching into the building there can be little doubt that the north-south pathway to the west is contemporaneous. It was very well constructed with edging stones and cobbles in a matrix of fine grit. Where the path met the building it turned sharply west and probably fronted Building 8. South of the building the pathway ran south-west but it is significant, perhaps, that it did not run up to the front of Building 5 possibly because this structure was later.

Building 7

As already indicated an east-west wall towards the south side of Building 6 and cutting its floor is believed to have formed part of a later structure. Its irregular foundation was similar in construction to two other fragments of wall - a north-south foundation between Buildings 4 and 6 and a curving foundation built over the infill at the north end of Building 4 and cutting its foundation on the west side. On the south side of the curved foundation was a short length of wall running north-south. It possibly joined the north wall of Building 5. The fragmentary nature of the building makes its overall form uncertain but its curved south wall suggests that it must have been very similar in plan to Buildings 3 and 8. Assuming this to be so, its overall dimensions can be estimated to have been about 7.00m wide by 8.75m north-south.

The Other Buildings

Building 8

The curved west wall of this building was first located in 1966 and other walls located in subsequent seasons. It is unfortunate that its full plan and interior features were not excavated since there are inconsistencies in its form in that its curved east and west sides do not appear to have the same circumference. If this is so it is not inconceivable that more than one structure is represented.

The building occupied the north-east corner of the courtyard with its projected east-west southern wall (lost) on about the same alignment as the outer walls of Building 1. It also appears to have been served by the same metalled path as Building 6 so it can be assumed, therefore, that the two structures were broadly contemporaneous. Lack of excavation precludes further comment other than to remark that, if its plan is an entity, it is similar to Buildings 3 and 7. Against the inside face of the north wall was an infant burial (LM/MQ) associated with a complete vessel with a lid (LM/MP; Fig. 46, No. G1.25) (Archive Photographs 308-12). The infant burial is reported on below (p. 114).

Building 9

Excavations to the north-west of the site revealed a sequence of structures designated Building 9. A variation in wall alignments indicates that they probably formed more than one structure but of significance, perhaps, is that they all appear to be situated on the east side of the courtyard wall and that they may have formed part of a separate complex. The nature and form of the buildings is speculative but to the north was an east-west aligned wall that possibly joined with the courtyard wall running north. Whether another east-west wall 6.70m further south in an adjacent trench is the south wall of a rectilinear structure with a stone pavement is far from certain especially since it had another wall at right angles to it. A further complication is the fact that this wall was not aligned with another stump of wall running east-west over the line of the boundary and nor was it at right-angles to another length of wall running between the proposed north and south walls of the structure.

Building 10

This structure is only known from its presence on the geophysical surveys (Figs. 5 and 6) but it appears to have measured approximately 7.50m square and to have been constructed on the eastern edge of the earlier enclosure ditch and with its west wall on the same alignment as the east side of Building 1. Its north wall was on the same alignment as the original south wall of Building 2. Twelve metres to the north another length of wall also shows on the surveys and is assumed to have been a boundary. This shared the same alignment as the north wall of Building 5. For further comment on this structure see the general discussion below.

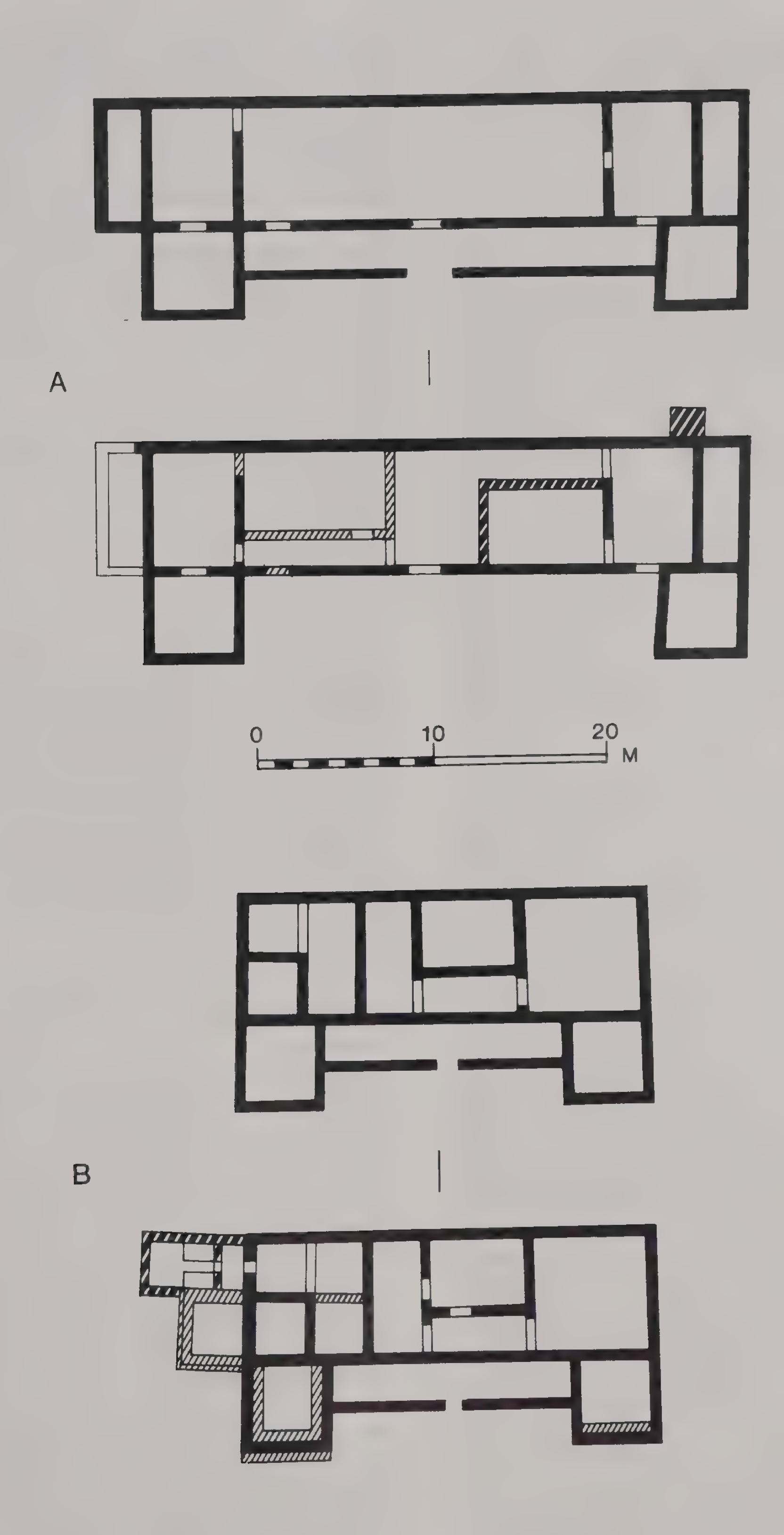


Fig. 30a Proposed phase plans of Building 1.

Fig. 30b Proposed phase plans of Building 2.

GENERAL DISCUSSION

by David S. Neal
with contributions by Peter R. Wilson

The Roman Landscape

The character of the rural landscape in any region is in large-part a product of the topography. In the Vale of Pickering the dominant components are the low-lying Vale itself, the Jurassic hills to the west and north and the cretaceous Wolds to the south. The Vale is dominated by the drainage of the River Derwent and in the western part by its major tributary the Rye, which, with its subsidiary streams, drains the hills bordering the western part of the Vale and the Beadlam area.

The human utilisation of the area is constrained by the impact of this topography, and notably by the drainage pattern. In the Roman period within the eastern part of the Vale this is demonstrated by the alignments of the major north-south routeways (Margary 1973, nos. 817 and 81b), which utilise, as much as possible, the limited islands of higher ground that exist within the low-lying body of the vale (*ibid*, 424-5). The known east-west roads in the southern part of the Vale run along the bottom of the Howardian Hills (*ibid*, no. 814) and Wolds (*ibid*, no. 816), utilising the higher ground.

The recognition by Powlesland (1988) from the air of a 'settlement zone' along the 30m contour in the south-western Vale further emphasises the importance of those locations away from the centre of the Vale with regard to settlement. However, despite the extensive air photographic coverage accumulated over the last twenty years it is clear that our understanding of the rural landscape is only in its infancy. The application of more sophisticated techniques, such as multi-spectral analysis (Pryor *et al* 1993), will allow the development of a more detailed picture of the rural landscape. Although sequences can be established from air coverage, the data-sets produced often have limited chronological frameworks. This problem is further intensified by the lack of date diagnostic settlement forms that would allow the visual separation of Iron Age and Roman period components of the landscape.

It is against this background that the rural landscape of the Beadlam area has to be considered. The area around Beadlam has not benefitted from intensive air survey and in large part any attempt to understand the rural landscape is dependant on the cumulative results of casual observation, both of individual finds and groups of finds and more clearly definable remains of occupation.

Away from clearly Romanised sites, such as Beadlam, it is often difficult to distinguish sites of Iron Age and Romano-British date, even where components of the material culture are available. The local pottery tradition is conservative (Evans 1995), and without the appearance of imported Romanised ceramics, such as samian, and mortaria (*ibid*), the recognition of early Roman sites is difficult at best.

The recognition of a trackway and enclosures in the Harome area to the south of Beadlam, along with records of cropmark sites to the south-east in the Wombleton/Welburn area, suggest that despite the limited utilisation of aerial photography in the area, an intensively occupied late Iron Age/Roman landscape exists comparable with that better known elsewhere in the Vale of Pickering. However, topography of the Beadlam area with its many stream courses, may suggest that settlement pattern should be more broken and less extensive. The occupation suggested by the limited cropmark evidence is further supported by discoveries of beehive querns in the Harome area, coupled with finds of querns, Roman pottery and probable occupation on Sunley Hill, south of Welburn (Hayes 1988, 47). Further finds are recorded from Nawton, Helmsley and various sites in Helmsley parish to the north-west of the villa (Wilson 1995a). Equally, the discovery of late Iron Age/early Roman sites in marginal areas along the banks of the Costa and Thornton Becks (Clark 1930; Hayes 1988, 28-33), although some distance from Beadlam, may serve to demonstrate the intensity of settlement in the north-western part of the Vale.

What probably exists, but still awaits cohesive investigation, is a landscape of enclosures and trackways, comparable with that in the Heslerton area, occupying the higher ground between the Rye and its tributaries in the Vale, and extending onto the Tabular Hills along the edge of the Vale. The limited cropmarks recorded to date, coupled with the casual finds (Wilson 1995b, figs. 6.2 and 6.3) point to Beadlam villa lying within an intensively occupied landscape comparable with that recorded by Ramm around the Langton villa (Ramm 1978, fig. 29), or within the area of the Wharram Parish Survey (Hayfield 1987). How Beadlam fits into that pattern is less clear given the current state of our knowledge of the settlement pattern of the immediate area in the late Iron Age/early Roman period.

The Pre-Villa Walled Enclosures

There is good evidence for buildings or structures earlier than the North, West and East Ranges although the nature of these structures is not well understood due to the shallow nature of the excavation. The presence of a probable trackway defined by walls crossing the site immediately north of Building 1, clearly indicates that land on either side of the trackway had been divided into fields for privacy or the security of stock. No walls have been identified turning at right-angles to these foundations although it is possible that the north-south wall against which some of the buildings in the East Range backed may be contemporary. It would also seem likely that the walled trackway may have been secondary to a right-angled foundation sealed partly by metalling north of Room 6 but whether this is contemporary with other fragments of compounds discussed below is far from certain.

Another large compound, earlier than the villa, may have been situated to the west of the site where a right-angled wall foundation is located to the south-west of Building 2, oblique to the structure. It is tempting to suggest that its east side originally ran beneath the building and turned north-west to join a fragment of foundation located west of Building 3. If so, the compound would have been about 35.00m long on this side. Another boundary wall probably explains the unusual double foundation forming the 'verandah' alongside Building 1; the

oblique wall here may once have been a part of an earlier yard as may also a length of foundation running south from Room 8. Possibly these compounds replaced the function served by the earlier ditched enclosure. It is significant, perhaps, that most of the pre-fourth-century coins and early pottery from the site were found on the metalled surfaces between Buildings 1 and 2 which suggest that they relate to activity in this area and not occupation of the buildings which do not appear to have been constructed until the fourth century.

The Villa Buildings

In describing all the various buildings no attempt has been made by the writer, hitherto, to present their structural sequence. This section will attempt to redress this omission; it will be followed by a discussion of the overall complex and proposed sequence of development and interrelationship of all the building ranges.

The North Range

The evidence indicates that Building 1 was never completed as originally envisaged and that the side passages (Rooms 10 and 12) were left unfinished. This is particularly the case with Room 12 which had its north wall left as a buttress. Nevertheless, the building appears not to have developed, for example, from a simple rectilinear hut since the foundations of the overall structure appear to be contemporary with the use of massive blocks of stone in the lower foundations and the provision of large stone blocks at the quoins. However, the internal layout underwent various changes. In the description for Room 6 reference has been made to an oven-like feature predating its south-east corner. It has been suggested that the oven was either associated with a phase earlier than the building or to have been associated with the structure when it was little more than a shell awaiting the installation of its internal partitions. Since it has also been stated that the areas of Rooms 6 and 5 were originally one and that the east wall of Room 6 was of a different build it is possible to speculate that, in fact, these rooms were added later and that the areas covered by Rooms 2-6 was originally one large open 'barn' for this would help to explain the location of the main entrance which would have been axial to the area - assuming the west wall of Room 1, with its centrally located doorway blocked by a fireplace, was contemporary with the initial phase as is likely. It might also help to explain the absence of earlier made floors in the areas of Rooms 2-6 and the location of the furnace heating Room 7 in the south-west corner of room 6. It was never operational from this room but functioned contemporarily with the open 'barn', hence its axial location along the east wall of Room 7.

If this argument is accepted it has profound implications for the interpretation of the building which would then have comprised two separate units at either end of the 'barn' (Fig. 30). Architecturally they balanced one another but they were also twinned in their arrangement of rooms even though their plans were slightly different. For example, Rooms 1, 9 and 10 not only matched Rooms 7, 8 and 12, respectively, in approximate size, but also in configuration. It is possible the blocking of the entrances in the south wall may relate to dual occupancy. Both the entrance into Rooms 1 and 5 were sealed. Access could only be gained into the north and south parts of the building, therefore, by way of Room 4 which may have acted as a communal lobby or internal 'yard'.

The fact that the building may have been divided could be supported by the evidence of the north-south feature cutting across Room 4. Assuming it to have been a wall (and this is by no means certain), possibly it was intended to physically subdivide the building and the yard to the south but was removed when the building was made into 'one'. This would help further to explain why the feature was sealed by a new porch directly against the south side of Room 4 and also help justify why the feature was slightly sunken so late in the Roman period and for it to have accumulated rubbish. Had it predated the building it would not have cut the metalled path leading to the building.

Whether Room 2 with its mosaic was inserted at the same time as the addition of Room 5/6 is uncertain but, nevertheless, its construction may effectively have converted the building from a twin farmstead sharing a common 'barn' into a single unit although its eastern access from Room 1 might indicate otherwise. Another main phase of the building is represented by the conversion of the mosaic room into a corn-drying or malting oven. This event is late in the life of the building and it is tempting to suggest that it coincided with alterations in Building 2 where the bath-suite was abandoned, the corridor wall removed and a new entrance and step built against the north wall of Room 1.

The function of the buttress-like foundation against the external wall of Room 1 is contentious. A similar foundation outside the north-west angle of Building 1, Rudston, was interpreted as possibly the base of external stairs (Stead 1980, 5) and this interpretation may be the most likely since, without rooms upstairs, the total number of living rooms in the Rudston building was limited to three - far too few for a principal dwelling. Similarly at Beadlam, by the late fourth century, with Rooms 1 and 6 being more in the nature of workshops and Room 2 being a corn-drying shed and Room 9 demolished where were the people living? Rooms upstairs could have been for accommodation but also used for the storage of hay.

Buildings 3 and 8 will be discussed together since they are both oval in plan. A problem with them is trying to decide what building range they relate to, if any. For example, the way Building 3 is an extension of Building 2 and was built partly over the earlier walls of Room 12, Building 1, might suggest that it belonged to the West Range. However, this may be deceptive since it could also be argued that since the pathway leading into it runs from Building 1, it relates to the North Range. Building 8, although not fully excavated, appears to have been isolated and separated from Building 1 and the East Range by metalled paths. However, although Building 8 is considerably larger than Building 3 their similarity of shape might suggest they had the same function. Their location on either side of Building 1, therefore, may not be coincidence since the two buildings may have related to the two units which Building 1 would appear to have been divided into. The function of the structures is not known but

presumably they were agricultural and it is tempting to see them as having been sheep folds. The infant burial in Building 8 need not indicate a domestic or funerary use since the distribution of infant burials on many sites often seems arbitrary.

The West Range

In the description for Building 2 (p. 25) it was stated '...if it were not for the status indicated by the presence of the mosaic in Building 1, ... Building 2 might possibly have been designated the main house'. The reason for suggesting this is that Building 2 was of winged-corridor plan and also the arrangement of the accommodation and the provision of a bath-suite would appear to indicate that it had a higher status. Unfortunately the preservation of the structure was very poor hampering any attempt to analyze its sequence of development. However, although there is evidence in the form of a massive quoin outside the north-west angle of Room 9 to suggest that initially this may have been the corner of an isolated bath-house, the evidence from elsewhere in the structure does not support this and it must be assumed, therefore, that the building is a broadly contemporary unit, as shown on plan, with the exception of later modifications made to the baths and Room 10.

However, as with Building 1, the provision of a verandah linking a pair of wing-rooms tends to 'conceal' the true nature of the building which comprised essentially two units, one living quarters and the other a bath-suite separated by a service passage (Room 9) containing a furnace heating Rooms 4/5 and another furnace heating Room 10. Indeed, the plan of the northern area with Rooms 10-13 is remarkably similar in form to the two units at the east and west ends of Building 1 - although Room 12 is larger. Since the southern end of the building is taken up with a bath-suite it may be assumed this part of the house was not part of the living accommodation and that it was probably shared by the occupants of Building 1 also. It is also possible that it was divided from the main part of the building so that it could be used by agricultural workers. Evidence for isolated bath-houses believed to have been used by workers is common; the reason for their isolation was once assumed to have been to avoid the risk of fire but isolated examples at High Wycombe, Bucks. (Hartley 1959) and Gorhambury, Herts. (Neal *et al* 1990) are so distant from the main houses that their use by the villa proprietors would have been most inconvenient; the Gorhambury example was associated with an aisled hall and other agricultural buildings. The division of Building 2 into two parts is paralleled at Rudston, Building 1 (Stead 1980, fig. 3), where Rooms 2, 3 and 4 (living rooms with mosaic pavements) were serviced by an L-shaped internal passage (Room 1) which separated them from the bath-suite, Rooms 5-9, at the south end of the building. It is possible that the division of the bath-suite from the living rooms was also intended to restrict bathers from entering the living apartments.

As with most bath-suites the Beadlam example underwent various modifications and at least two phases of development can be identified. These phases can best be demonstrated in Rooms 4 and 5 which were originally one room since a blocked-up furnace in the north wall was partly concealed by the insertion of the party wall. Room 4 to the east was then filled up with rubble to become either an *apodyterium* or an extension of the *frigidarium* to the south. The new furnace was transferred to the south and the heated rooms simplified in as much that they were now in line and not forming an L-shape as previously. Three phases can be identified in the large plunge-bath occupying Room 1 but plunge-baths invariably leaked and it is not surprising that it was relined and its walls thickened on several occasions. These alterations need not, necessarily, relate to conversions elsewhere although the provision of a small octagonal plunge-bath (Room 3) to the south suggests that the original plunge-bath may have continued to leak and a new one was built in its place.

In the northern part of the building the abandonment of the hypocaust in Room 10 may possibly be contemporary with the changes on the north side of the bath-suite. It has been suggested that the furnace heating Room 10 was in the south wall, beneath the later doorway from Room 9; perhaps the two furnaces were removed at the same time and Room 9 adapted into a vestibule.

At least one of the rooms in the building had a mosaic as the numbers of large and small tesserae found amongst the demolition rubble indicate. Unfortunately it is not known what room, or rooms, were paved in this medium but the tesserae suggest that the building was well appointed which the quality of the painted wall plaster also implies. Indeed the painted plaster was superior in finish and its decoration possibly more varied than that in Building 1.

Although similar methods of construction between Buildings 1 and 2 suggest that they may be broadly contemporary, the coin loss may indicate a different picture for there appears to be a higher ratio of Constantinian coins from this part of the site to elsewhere. The possibility arises, therefore, that Building 2 is earlier in date and was indeed the main house and that Building 1 was, initially, an ancillary farm building.

The East Range

The evidence for features earlier than the masonry buildings has already been given (p. 34). Building 4 began as a large barn-like structure probably almost 20m long. There is good evidence in the form of a metalled path that an entrance existed axial to the east wall (evidence for another entrance in the west wall was not found), and further evidence that following the subdivision of the building by a partition another entrance was made on this side further north. This was subsequently blocked. The indications are, therefore, that the building once faced onto a yard to the east. However, there are a number of aspects concerning its alignments and orientation than need emphasising. Firstly the building shared the same north-south orientation as Building 2 and is not truly at right angles to Building 1. Secondly, assuming its south wall was located immediately south of the southern edge of the excavation, an assumption based on the possibility that the path to the east was axial to the structure, then the south wall of the building would have been on the same alignment as the south wall of Building 2 (before the plunge-bath (Room 3)

was added). This would seem a deliberate act. What is curious, however, is the way the building has been sited so far east. Had the building serviced Building 1 it is likely to have been located closer to it, possibly with its west side on the same alignment as the east wall of Building 1, reflecting the alignment of Building 2 opposite. The presence of unexcavated Building 10 'within' the courtyard, with its west wall sharing this very juxtaposition, might indicate that this originally formed part of an earlier range. The constraints under which the excavation was undertaken make it impossible to resolve these problems but nevertheless, although Building 4 shared a common south boundary with Building 2 it was not focused on either the North or West Ranges or the associated yard. Instead it faced onto a yard to the east, a yard possibly associated with another building range represented by Building 9. Certainly the geophysical surveys indicate considerable activity in the area.

With the construction of Building 5 over Building 4 the aspect of the new structure is beyond doubt. It faced west as the entrance in its west wall and west facing apse demonstrate. Its construction represents a fundamental change to this part of the site since no attempt was made to incorporate the earlier building into it other than to convert the east wall of Building 4 into a boundary. The new building faced Building 2 across the yard; neither its north or south walls were aligned with the building opposite and nor was the building axial to it.

The provision of an apse gives the building a mark of importance. It looks as though it may have been a shrine but there were no artefacts from the building that would support this notion and the fact that the building originally had a simple flagged floor and was without painted wall plaster probably rules this out. However, it is tempting to see the building as a communal structure where decisions regarding the management of the estate and the community were taken. It could have doubled as a farm building at other times. Its plan and change of orientation recalls Building G from Winterton (Stead 1976, fig. 30). Here the original building faced east onto a large rectangular yard but when the apsidal structure was built onto its east side it faced in the opposite direction with its apse backing into the yard. The focus of the overall complex had changed sides. The reason for this is not fully understood but it may possibly be explained by the presence of Building M running west and possibly forming the north side of another yard into which the new apsidal building faced. What is significant, perhaps, in the placing of the Winterton building is that it was constructed immediately adjacent to the location of an earlier large circular building, Building J, which was demolished when the new range, Building G, was constructed. The fact that this circular building occupied an axial position to the later structure may indicate that it was a structure of some importance and that the construction of the apsidal building was intended to replace what had been lost. If the circular building had been a focus of the settlement and the community it served then perhaps the apsidal building was likewise.

At Stanwick, Northamptonshire (Neal 1989), an aisled barn constructed in the third century, had an apse at its western end yet the building was a working structure complete with hearths and deposits of ash related to corn processing. Even when the apse was demolished it was replaced by an open-sided room facing into the working part of the building. Yet later when a winged-corridor building of some luxury was built against the gable, the open sided room facing into the hall was retained and the hall continued to be a working unit. Again, the Stanwick example is believed also to have been a place where workers could meet - it was not a *triclinium.* Returning to Building 5 at Beadlam, it is tempting to see a similar relationship and that this structure was a focus of community life within the overall complex. Its orientation clearly indicates that it related directly to the community within the North and West ranges. An example of community life may be provided by an unstratified fragment of a huge mortarium (Fig. 49, M9.1) which was possibly for more than private domestic use. A similar example by the potter Verecundus was found in an aisled barn at Gorhambury, Herts. (Neal *et al* 1990, no. 5, 194) in a context suggesting that the structure was being used for communal living.

The fully circular form of Building 6 is typical of many buildings in Roman Britain and at many villa sites, including Winterton, for example. They have a long life and survive into the fourth century. The function of the Beadlam example is not understood but its substantial flagged floor might indicate that it held stock. What is significant, possibly, is the presence of a fragment of a large millstone with a diameter of about 0.84m. Its diameter is probably too large for it to have been a hand quern so it is tempting to suggest that the building may have been a mill such as an example recently identified in a circular building at Stanwick - although no evidence has been found for a donkey track as at Stanwick (Frere 1992, 285 and pl. xv). A circular building at Langton may also have been a mill with a central pivot (Corder and Kirk 1932, 39-40, fig 58).

Building 7 was constructed over Buildings 4 and 6 and appears to have been sub-rectangular in form similar to Buildings 3 and 8 and therefore may have been built at about the same time. Certainly it is late in date and probably postdates Building 5 but possibly co-existed with it. The pottery evidence demonstrates that Buildings 3, 7 and 8 are some of the latest structures on the site, and that, in contrast with what is usually recorded, during the latest phases at Beadlam circular/ovoid buildings were replacing rectilinear structures. It is also noteworthy that the circular building (Building 6), which is interpreted as being earlier than Building 7, itself dates to the mid-late fourth century, thereby lending support to the suggestion that Building 7 may be occupied into/built in the fifth century (p. 34).

Little more can be said about Building 9 other than that its presence hints at the existence of a building flanking the north side of a yard situated east of the East Range and possibly related to Building 4. However, one observation to make is that its north wall appears to be on the same alignment as the south wall of Building 1 but whether future excavation will demonstrate this to be significant remains doubtful. Pottery evidence indicates that Building 9 had gone out of use by *c.* A.D. 355, which is earlier than many of the buildings in the complex.

The location of Building 10, an unexcavated building located by geophysical survey, with its west wall aligned on the

east wall of Building 1, might suggest that it once formed part of an earlier eastern range. However, the geophysical survey and surface observations would indicate that it was a free-standing building and not part of a larger structure. Almost square, isolated, buildings are not common on Roman villas. Its location on the edge of the earlier ditch may be purely coincidental but it is perhaps significant that if the north-south trackway west of the East Range had continued south it would have run close to the structure. If that were the case Building 10 may have been a lodge at the entrance to the complex but two square buildings side by side such as Building L from Winterton (Stead 1976, fig. 42) would be a more likely plan for this interpretation. Another possible function is that it was a granary of the towered type such as an example from Gorhambury (Neal *et al* 1990, figs. 52-3), or it may even have been a water tank similar to one from Gadebridge Park, (Neal 1974, fig. 5) and now believed by J.T. Smith (Smith 1978, 169) to have been a shrine.

One of the characteristics of both the North and West Ranges is the apparent pairing of groups of rooms possibly indicating separate accommodation for family groups. The pairing of buildings on many villa sites, including Beadlam, has led Smith (*ibid*) to suggest that villas were often jointly occupied by separate families of varying status and he writes '...that changes in type of plan or elevation correspond not only to variations in wealth but, more importantly, to changes or differences in social structure' (*ibid*, 150). He also argues that some individual buildings, such as at Eccles, and Chedworth, for example, were divided into equal units for individual families. This interpretation is a contentious matter (Clarke 1990) but, nevertheless, the plan of Building 1 does indicate that it was divided into two units and, therefore, supports Smith's theory.

Villa Distribution (Fig. 1)

The villa at Beadlam joins a group of villas clustered around Malton including Langton, Oulston and Hovingham for example. They share a similar geographical location in that they occupy good agricultural soil with a watershed towards the River Derwent which flows south-east of York, joining the River Ouse between Selby and Goole. It might be expected, therefore, that the economic focus of the area would be York but the apparent lack of villas between Malton and York possibly rules this out. The remarkable feature of the Beadlam villa is that occupation continued so late with large numbers of Valentinianic coins of A.D. 364-78 and late Theodosian issues of A.D. 388-402. A similar coin loss was recorded at the Langton villa (Mattingly, 1932) and a late coin hoard was associated with the villa at Hovingham near where a treasure trove of 44 silver *siliquae* included four issues of Arcadius and nine issues of Honorius (Burnett 1984) (information kindly supplied by P.R. Wilson) and it has been suggested (Curnow 1988) that occupation of these sites reflects a link with the signal stations of East Yorkshire. This would seem possible especially since Scarborough and Filey are located only 20 miles to the east. The fort at Malton was rebuilt in the fourth century and *may* have housed a unit of Imperial Household cavalry (*RIB* 714); although it should be noted that the date of the inscription is not known. Nevertheless, any villas in the area would have been relatively secure and could have flourished so long as the cavalry were stationed there; indeed they may have had economic links and provisioned the cavalry with winter feed. Furthermore the villa owners might have been made to feel doubly secure by the existence of the coastal defences. The economic focus therefore was probably Malton; a link with the cavalry may be indicated by the discovery of the spur from Beadlam (Fig. 32, No. 20) and another from Rudston (Stead 1980, 102, fig. 66, 47).

Unfortunately, only the Beadlam and Langton villas have been excavated on any scale and although individual building plans are known from the other sites we have no idea of the overall plans of the complexes. However, mosaics and bath-suites are known from chance discoveries going back to the eighteenth century and indicate that the owners of the buildings aspired to Roman fashion. However, it must be said that with the possible exception of the mosaic from Oulston, the standard of the mosaics would appear to be fairly poor. In the case of the example from Hovingham, which seems to have had a scheme similar to the Beadlam mosaic, possibly it was a product of the same mosaicist. In contrast, the mosaic from Malton (Mitchelson 1964, pl. ix) was superior in both technique and content. Expert craftsmen may not have been available to the owners of the buildings and it is apparent from other aspects of Beadlam, especially the wall plaster in Room 1, Building 1 that the owners may not have been particularly discerning. Nevertheless, from the large assemblage of glass vessels it is apparent that they had wealth and although this wealth is not represented in other types of material or the quality of the buildings it seems likely that they were confident people generating sufficient surplus to acquire status items. The presence of stock-yards suggests an emphasis on cattle, at least initially, although the large scythes (Fig. 35, Nos. 56-7) suggest arable cultivation and cereal growing, but they could also be associated with hay production. The production of shale loom-weights may have been an ancillary trade. All this provides a picture of a prosperous rural class, and we may presume a literate family given the evidence of the ornamented stylus (Fig. 31, No. 1). Inscriptions on the Venus mosaics from Rudston also imply an educated class of villa owners. However, it is perhaps the quantity and quality of the vessel glass at Beadlam which is most remarkable in that it represents the largest collection from a rural site north of the Humber; it was often found in occupation levels within simple buildings so we must not assume necessarily that the occupants of these structures were, necessarily, of low status. This reinforces the notion of an essentially rural class quite happy in their life style, reserving Room 2 with its mosaic for special gatherings but making full use of the other rooms and buildings for living and working - apparently (even with earth floors) in some comfort. Window glass was found in all three main areas of the site but by far the largest concentration was found associated with Building 1 with 118 fragments (compared, for example, with 62 fragments from Building 2). This survival may be a reflection of the better preservation of Building 1 compared to the other structures but perhaps relative quantities between Buildings 1 and 2 cannot be compared

since half of Building 2 was given over to a bath-suite which is unlikely to have had many windows.

A number of artefacts indicate late settlement at Beadlam - including for example the decorated stylus and strap-end (Fig. 31, Nos. 1 and 3) and possibly the 'Frisian' style bone comb (Fig. 33, No. 26). Of significance is the evidence for late graves being located within Building 1 which suggests that parts of the farm, at least, were still functioning even though the house was abandoned. The placing of late graves within or just outside villa buildings occurs widely elsewhere. Although such placing may be a way of keeping burials to the margins of new settlements and using marginal land, it is possible that the old villa buildings may have been identified as foci of native families anxious to retain links with their ancestors. However by now they were increasingly being absorbed by new cultures from the continent.

THE SMALL FINDS

Introduction

The excavations of 1969-78 recovered a total of 866 small finds each catalogued with an Ancient Monuments Laboratory number; some entries include multiple items such as nails or metal fragments. The material can be divided into the following classes;

Copper Alloy	97	
Coins	331	
Silver	5	
Iron	257	
Lead	22	(including waste)
Bone	17	
Glass	15	(excluding vessel and window glass)
Fired clay	11	
Jet/shale	42	
Worked flint	55	
Stone (misc.)	14	

Unfortunately, however, with the movement of the finds to various institutions and specialists many were 'lost' with the result that it has not been possible to illustrate a representative sample of the collection. Of the copper alloy only 46 items remain. In the case of the ironwork, however, it has been possible to illustrate the complete assemblage since the 'lost' material of about 80 objects could be drawn from X-rays. Formless objects or objects of duplicate type or size have not been illustrated.

All the coins from the 1969 season (210 items) are missing and although these were identified, their provenances were not added to the descriptions - so from where exactly in the buildings they came is uncertain; none of them can be used to date specific contexts, therefore. Nevertheless, the coins, together with those found in later seasons, are of considerable value in determining key periods of activity as demonstrated in the report on the coins by Craig Barclay (p. 63).

Even with many of the objects missing it is clear that the material represents a significant collection of finds from a villa site - especially the ironwork. Most of these were found in Room 6, Building 1, which appears to have been used as a workshop and had two groups of iron totalling about 53 items placed against its south wall. One of these groups (Hoard I) was found in a trial trench but because it shared the same location as Hoard II, found when the room was fully cleared, it is likely the two groups form one assemblage; however, they have been kept as two groups within the report. Since many of the pieces were folded for scrap it would appear the room was a workshop or smithy. Trading would appear to have taken place as the deposits also contained 63 coins (with another 4 coins from the rubble above) some as late as issues of Valentinian and Theodosius (the coins from this room were given provisional identifications in the site notebooks). Room 1 also containing a fairly large assemblage of finds including 7 coins (provisional dates not given).

It is surprising, perhaps, that so few objects of bone were recovered but this is more than compensated by the number of objects in jet and shale. The presence in the collection of waste lumps of shale and jet would seem to indicate that they were manufacturing items on site including, possibly, shale spindle whorls. As already noted, of particular interest, however, is the assemblage of glass which is remarkable in that it is the largest quantity of fourth-century material found on a rural site north of the Humber.

Descriptions

It is customary in reports on finds to present the material in functional order but because items are missing this convention has not been strictly adhered to. Information in parentheses includes the alphabetical site excavation code and the Ancient Monuments Laboratory finds numbers.

Objects of Copper Alloy and Silver (Figs. 31-32)

Personal Items

1. Stylus. Spatulate in shape at one end and pointed at the other. The spatulate end of the shaft is decorated on all four faces with a series of alternating lozenges and pairs of opposed semi-circles in characteristically fourth-century style. Length 122mm. From occupation in Room 6, Building 1. (LB/LH, 776553). (For another bronze example see Kenyon 1948, 259, fig. 87.1.) Now lost.
2. Nail cleaner engraved on one side with a fish - a shape reflecting the overall form of the object. Length 51mm. (LB/OW, 705834). An example from Richborough has an engraving of a 'monster' (Bushe-Fox, 1928, pl. XIX, 34). Now lost.

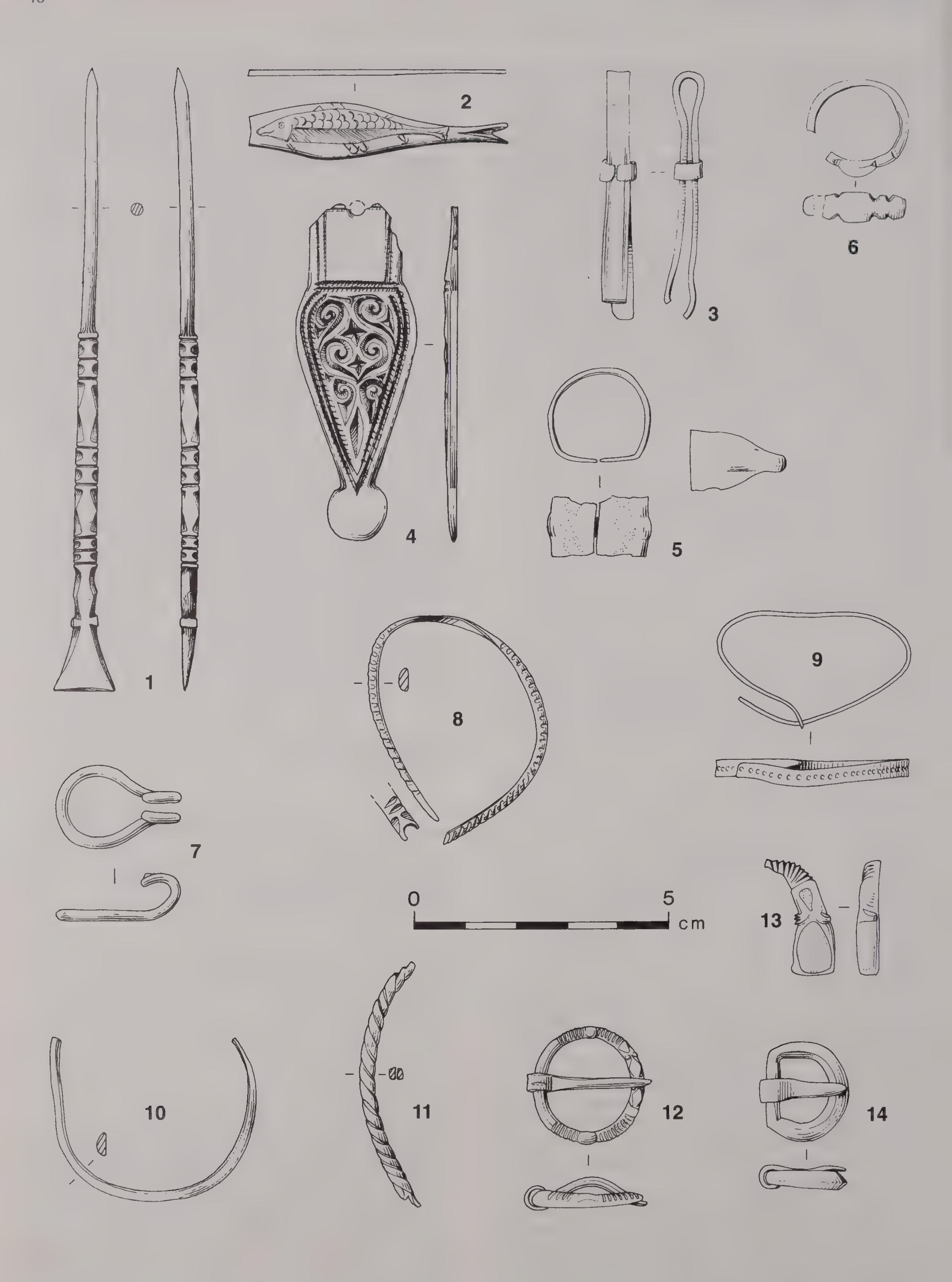


Fig. 31 Objects of Copper Alloy; Nos. 1-14.

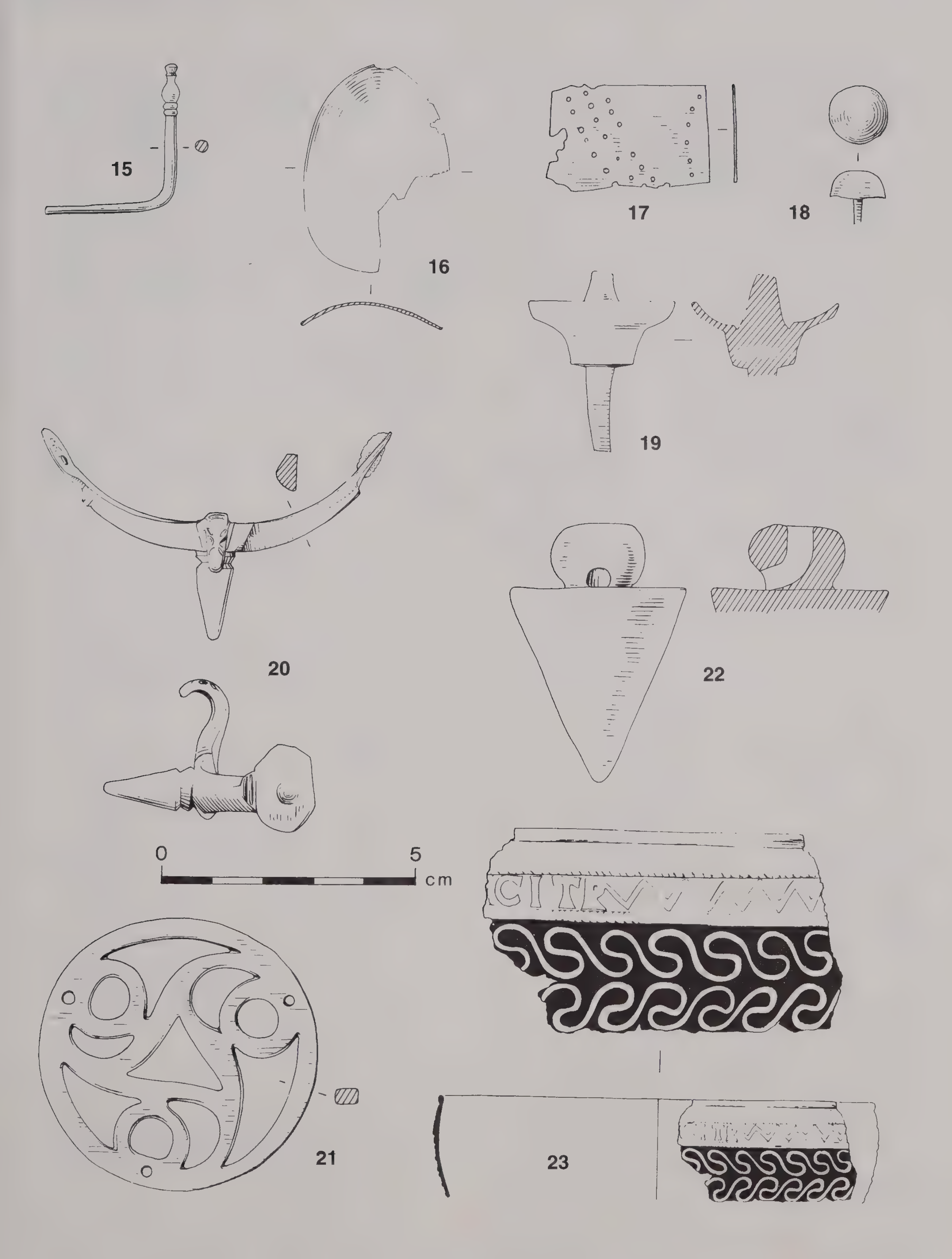


Fig. 32 Objects of Copper Alloy; Nos. 15-23.

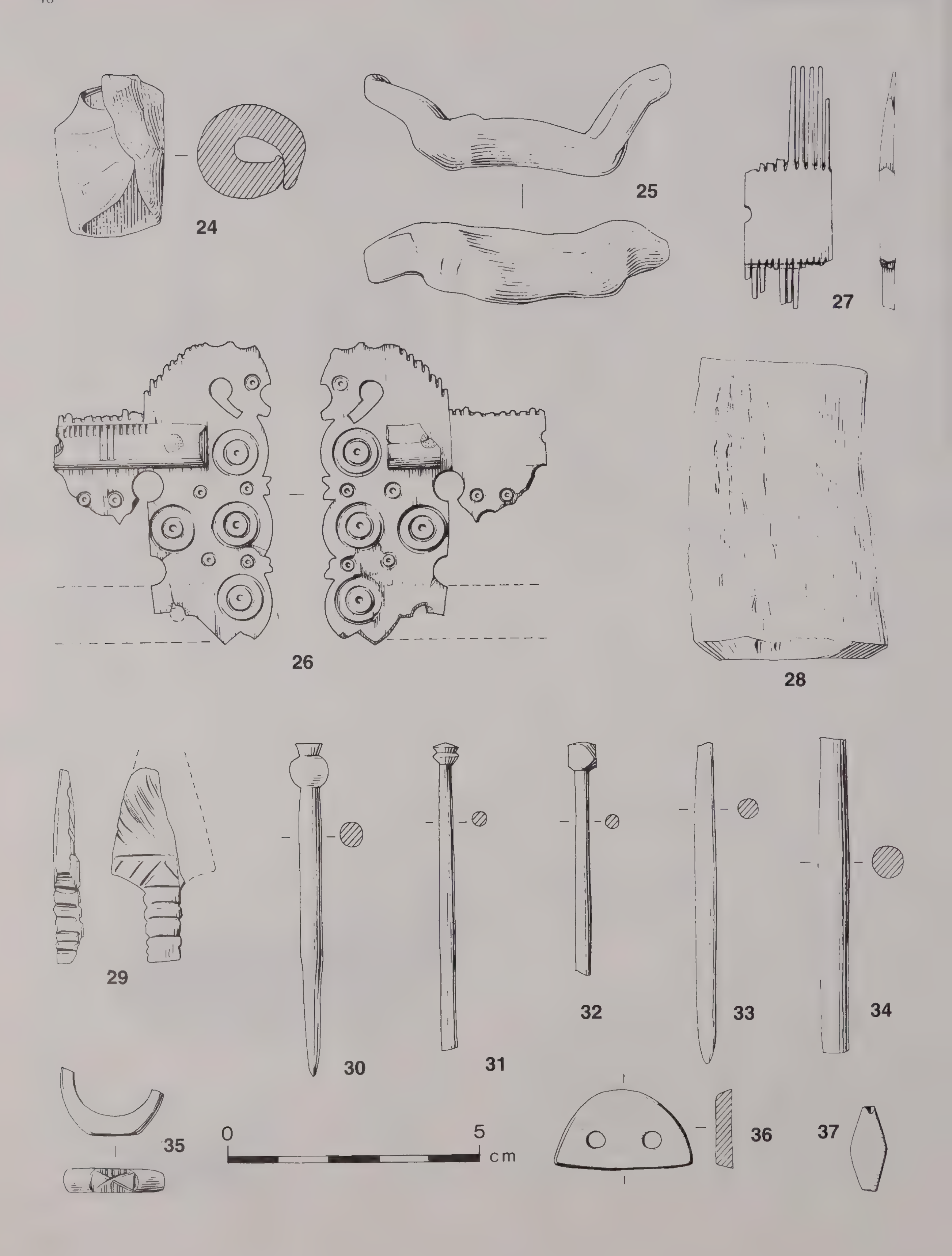


Fig. 33 Miscellaneous objects; Nos. 24-37.

3. Tweezers from a toilet set. This is a common item but the spring fastener around the object is not usually found. Both arms have simple scored decoration along the edges. Length 49mm. From threshold into Room 1, Building 1. (LB/BM, 705831).

4. Strap-end with incised decoration comprising two opposing S-shaped scrolls with cross-shapes in the central interspaces. This decoration is surrounded by two deeply chased grooves with the indentations of the chisel creating a decorative effect. At the broken end of the object is the remains of a hole for a fixing. The style and chip-carved ornament is well known in late fourth century Britain. Length 66mm. From rubble over cobbled surface between Buildings 1 and 8. (LB/BK, 776552). The object resembles an example from Leicester (Kenyon 1948, 255, fig. 84.15 where other similar pieces are listed).

5. Finger ring made from a single strip of copper-alloy originally coiled into a circular form and the terminals soldered onto a metal bezel which is lost; traces of solder survive on each of the terminals. Maximum diameter 20mm. From occupation within Building 4. (LC/DM, 776585)

6. Finger ring with notched decoration on the top and bottom to create a bezel. Diameter 20mm. Found during trial trenching over Room 9, Building 1. (BB/AY, 776634).

7. Probably a dress fastener. Max. length 25mm. From the rubble within Room 8, Building 1. (LB/VH, 803111).

8. Bracelet with a continuous notched decoration and with a serpent-like terminal with the remains of a hole for a spring attachment. Distorted; max. width 45mm. From within Room 4, Building 1. (LB/MV, 776549).

9. Bracelet with punched dot decoration. One terminal is broken and its original diameter is uncertain, but it appears to be small and therefore made for a child. Overall diameter 38mm. From over pathway on the south side of Room 8, Building 1. (LX/EQ, 803099).

10. Fragment of bracelet with a simple undecorated band. Diameter originally 40mm. From deposits to the north of Room 6, Building 1. (LB/ABN, 896434).

11. Bracelet made from two twisted strands. Length 50mm. From the courtyard to the south of Room 5, Building 1. (LB/HA, 776547).

12. Penannular brooch with bead and reel scored decoration and with opposing lozenge-shaped serpent-heads at the terminals. Diameter 22mm. Found during consolidation work outside the north-east corner of Building 1, within grid square A10. (822152).

13. Terminal from an elaborate brooch or buckle decorated with two fields of enamel (colour cannot be determined from visual inspection) divided by two 'lobes' or 'ears' on either side of the object. The arm of the object is decorated with a series of deeply cut grooves creating a concertina effect. Length 25mm. From unstratified deposits south of Room 8, Building 1. (LB/AGH, 803093).

14. Buckle. Max. dimension 20mm. From within Building 6. (LM/CP 803102).

15. Pin with baluster decorated head. It is bent at right-angles and its tip is broken. Original length 50mm. From deposits north of Room 4, Building 1. (LB/AKS, 803095).

Other Items

16. Bowl from a spoon. It has been tinned or silvered. Length 40mm. From the robber trench of the north wall of Room 12, Building 2. (LA/JL, 705842).

17. Fragment of sheet copper alloy perforated with three lines of holes and an arc of holes. Probably part of a strainer. Length 32mm. From Corridor 3, Building 1. (LB/SH, 776567). Another perforated fragment (LB/UW, 896430) probably from the same strainer was found within the ploughsoil over Building 8.

18. Stud. Diameter 12mm. From Room 14, Building 2. (LA/JM, 705836). Another stud of similar type was found together with this object and other examples were also found elsewhere on the site.

19. Object of uncertain use but probably an ornamented handle-knob. It has a conical-shaped point rising from a dish-shaped bowl affixed to an iron pin. The object is damaged but is shown corrected on the illustration. Length 35mm. From rubble within Room 8, Building 1. (LB/VG, 803110)

20. Spur. The terminals are disc-shaped and pierced for rivets to secure leather thongs; traces of iron survive. Two lines of notched decoration occur at the ends of the arms and there are diagonal notches on a fastening hook rising from the centre of the object. Overall width 69mm. From topsoil immediately to the south of the south wall of Room 8, Building 1 (LX/DM, 803098). A very similar spur was found at Rudston (Stead 1980, fig. 66.47) but on this example where the hook meets the arm there are four 'petals', each pierced.

21. Leather mount in the form of a triskelion within a circle. The triskelion is based on three interlinked wave crests with the 'tops' of the waves tangent to the outer edge of the circle. Diameter 54mm. Found in grid square B10 to the east of Building 1. (LB/ACP, 803091). Attached to the object was a fragment of iron but the radiographs show no association. Now lost.

22. Plumb-bob. Conical in form with a rounded head pierced by a hole for a cord. Height 51mm. From destruction deposits to the north of Room 7, Building 1 (LB/AK, 803096).

23. Fragment of a bowl. Width 70mm. From the hoard of metal found against the south wall of Room 6, Building 1 (LB/NZ, 705837). Now lost. A fragment of beaten bronze (LB/AQ,776584), possibly cast, found in rubble to the south of Room 8, Building 1, may be the base of this same object.

Sarnia A. Butcher writes:

'The decoration, in relief bronze, shows part of an inscription [...] I CITR followed by a zigzag line. Below this there is a continuous double scroll, again formed by lines of reserved bronze. The cavities were filled with enamel, of which only fragments survive; blue within the scroll and turquoise in the outer field. The upper edges of the panels are serrated in a similar manner to examples from Kirby Lathorpe and Brougham (Butcher 1977, figs. 1 and 2).

The position of the inscription and the style of the lettering place this in the same group as the Rudge cup (Cowan and Richmond 1935), and this is reinforced by the scroll, which appears to be very like that on the handle of the Amiens vessel (Heurgon 1951), which also bore an inscription below its rim. Both of these vessels showed the names of forts on the northern frontier of Britain; the Beadlam inscription may refer to Tarraconensis (Butcher 1977, 49). By analogy with the other two examples it should date from the mid- or later second century, but it was found on a floor with numerous fourth-century coins (*ibid*).'

Frere and Tomlin (1991, 2415.54) suggest the letters may stand for *feliciter*, "good luck".

Among the 59 missing objects are fragments of nine bracelets, a brooch, and various toilet items, including nail cleaners and tweezers. Of the objects illustrated, the stylus (No. 1), the nail cleaner (No. 2), the triskele (No. 21), and the bowl (No. 23) are lost.

Miscellaneous Objects (Figs. 33 and 34)

24. Weight made from a scrap of lead. Height 32mm. From Building 3. (LB/XC, 803122).

25. Possibly a clip made from lead. Length 60mm. From Building 3. (LB/XL, 896441).

26. Comb. It is broken into a number of fragments but sufficient survives to establish that both ends of the comb were decorated with stylised horses and that the teeth of the comb were intended to represent the manes. It is further decorated with a series of large and small drilled concentric circles; some of the smaller circles form the horses' eyes. The object was made from several large bone plates fixed to one another by two pairs of narrow bone strips or ribs spaced 23mm apart secured by iron rivets. Two fragments, of which only one is illustrated, came from Room 2, Building 1, while another was found in the courtyard south of Room 1. Height 120mm (Illustrated fragment LB/CS, 776638 (others BB/AZ, 776640 and LB/LU, 705843 respectively).

Ian Riddler has provided the following note on the comb:

> 'This fragment belongs to a rare form of late Roman double-sided composite comb, for which there are two connecting plates on each side, instead of one. Little of the connecting plates now survives, but a comparison with other combs of this type indicates that they would have been relatively narrow and widely spaced, with an area of openwork decoration between them which was embellished by drilled concentric circles.
>
> This comb is closely paralleled by examples from Jakobswullesheim and Steinfort, as Hills has previously noted (Haupt 1970, 385-6 and taf. 31; Hills 1981, 97-8; MacGregor 1985, 92). All three combs have zoomorphic terminals on each end segment and connecting plates whose sparse linear decoration contrasts with the curvilinear designs of the tooth and end segments. All of these combs undoubtedly stem from the same late Roman workshop.
>
> Datable examples of double-sided, doubled connecting plate combs stem from contexts of the late fourth century. They include combs from Abbeville, Altenstadt, Ptuj, Trier, Vermand and Vron, as well as a fragment from Langton Roman villa and an unpublished example from a cemetery at Giltspur Street in London (Haupt 1970, taf. 31; Keller 1971, taf. 33.2; Biro forthcoming; Corder and Kirk 1932, fig. 20.15; Seillier and Demolon 1983, 103 no. 117c). A further example from Testona has been dated to the sixth or seventh century, but is probably also late Roman (Menis 1990, 212 and fig. iv.111). The doubling (and in one case at least, tripling) of the connecting plates and the elaborate decorative designs of these combs indicate that they were prestigious items produced for a wealthy clientele.'

27. Teeth from a comb. It is a narrower type compared to No. 26 and the plates were fixed originally by a single bone strip secured by iron rivets (missing). Height 48mm. From Room 7, Building 1. (LB/CB, 776637).

28. Antler handle drilled down its centre and with one end splayed. Length 60mm. From grid square D12, Eastern Range. (BB/AB, 776641).

29. Bone object in the form of a leaf. A square shank is decorated on all sides with a series of notches. The 'leaf', which is incomplete, has opposing diagonal lines near the stem and, above a 'horizontal' line, crudely worked diagonal scoring possibly to represent the ribs of a leaf. One side and the top of the object is lost but it is suspected that the missing side has similar decoration running in the opposite direction. Length 39mm. Its function is uncertain but it may be votive and related to copper alloy leaves found on many sites. Alternately it was a spatula, as its location in a bath-suite might suggest. From Room 9, Building 2. (LA/AP, 776635).

30. Bone pin with thistle-shaped head. Length 61mm. From outside Room 1, Building 2. (BA/AA, 776642).

31. Bone pin with incised cylindrical head. Length 61mm. From Room 2, Building 1. (LB/YE, 803119).

32. Bone pin with facetted square head. Length 46mm. From deposits associated with Buildings 6 and 7. (LC/FS, 776645).

33. Bone pin, head missing. Length 64mm. From south side of Building 2. (LA/GC, 776644).

34. Jet pin, head and point missing. Length 62mm. From east of Rooms 9/10, Building 1. (LB/PX, 705753).

35. Fragment of jet finger ring with its bezel decorated with a X-shaped motif with vertical score lines in the upper and lower arms of the X. Diameter 22mm. From courtyard area to south of Room 5, Building 1. (LB/GL, 705750).

36. Jet bead. Semi-circular in shape and with two cord holes. Width 27mm. From north of Room 1, Building 1. (LX/GU, 810332). Such an object would come from a bracelet graded in thickness.

37. Jet bead. Lozenge-shaped, square section. Length 17mm. From Building 4/5. (LC/BK, 776682).

38. Jet object of rectilinear form decorated with two concentric circles and a line parallel to its bevelled rim. The function of the object is uncertain but it may be an inlay; one straight edge is not bevelled so, possibly, another plate was originally set alongside to produce a pattern of repeating circles. Length 25mm. From courtyard south of Building 1. (LB/QP, 705754).

39. Jet object. Rectangular and decorated with two diagonal lines. Probably an inlay; a number of similar pieces placed side by side would produce a design of zigzags between horizontal lines. Length 26mm. From north-east of Building 6. (LM/DB, 803117).

40. Jet bangle. Original diameter 70mm. From north side of Building 2. (LA/DG, 705747).

41. Jet bangle. Original diameter 73mm. From robber trench, Building 1. (LB/RU, 705755).

42. Shale bangle. Original diameter 80mm. From Building 6. (LX/MP, 803115).

43. Shale bangle. Original diameter 67mm. From Eastern Range. (LM/DB, 803117).

44. Shale bangle. Original diameter 68mm. From trial trenches over Building 1. (BB/AJ, 76681).

45. Shale spindle whorl. Diameter 36mm. From east side of Building 6. (LM/ES, 810335).

46. Shale spindle whorl. Diameter 34mm. From east side of Building 1. (BA/AA, 705748).

47. Shale spindle whorl. Diameter 34mm. From Building 1. (LB/ED, 705746).

48. Pottery spindle whorl in red fabric. Diameter 36mm. From Building 1. (LB/DL, 776672).

49. Pottery spindle whorl in a grey shell-tempered fabric. Diameter 51mm. From east side of Building 2. (LA/GS, 776674).

50. Pottery spindle whorl in grey fabric, unfinished. Diameter 30mm. From Building 6/7. (LC/CM, 776679).

In addition to the pottery spindle whorls above there are another six unillustrated examples.

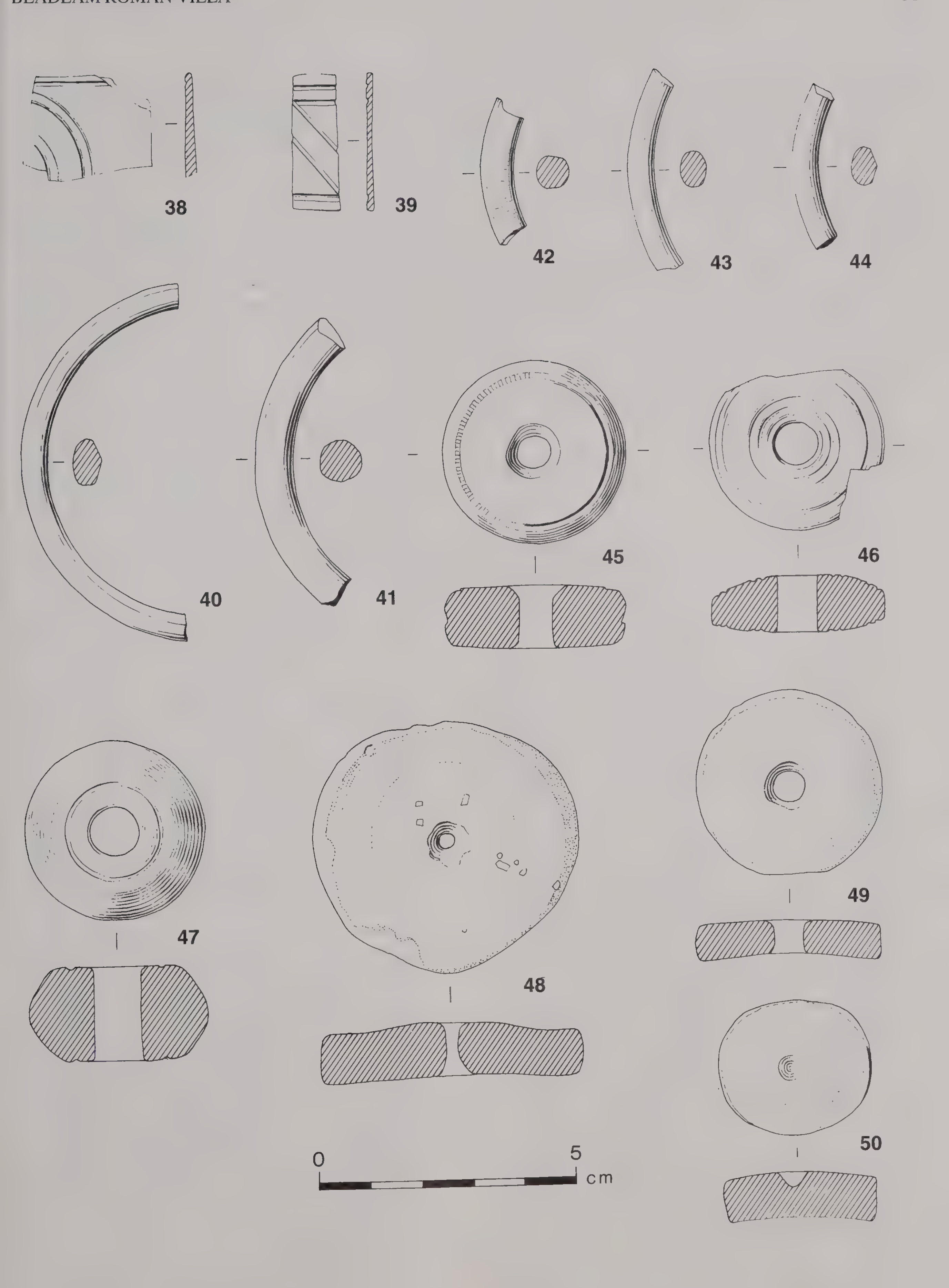


Fig. 34 Miscellaneous objects; Nos. 38-50.

Objects of Iron

The writer acknowledges the help of Prof W.H. Manning in identifying and providing parallels for much of the material.

Finds from Room 6, Building 1

Hoard I (Figs. 35-38, Nos. 51-78)

51. Axe of unusual form. The socket has been formed by folding over and welding it to the blade. Length 110mm. (LB/NM, 705777).

52. Axe. The socket of the axe is similar to the preceding. The weld has broken open, possibly when the blade was broken. Width 62mm. (LB/NK, 705773/930030).

53. Length of parallel sided blade. It is unlikely this object forms part of a scythe as it is straight. It could be part of a carpenter's pivoting knife or a draw knife, cf. Manning 1985, 19, B20. Length 210mm. (LB/NE, 705780).

54. Knife blade. Too little remains for the type to be identified. Length 90mm. (LB/OH, 705789).

55. Knife blade. See comments for No. 54 above. Length 66mm. (LB/OJ, 705786/930092).

56. Scythe blade fragment folded in half. Together with No. 57 the folding of the object demonstrates that the assemblage was destined for scrap. Both 56 and 57 are fragments of the later Roman scythe named after the examples in the Great Chesterford hoard, cf. Manning 1985, 50. Original length, if unfolded, 410mm. (LB/NJ, 705785).

57. Scythe blade fragment folded in half. See No. 56 above. Original length, if unfolded 400mm. (LB/OE, 705782).

58. Saw blade in two fragments. On the top edge of the smaller fragment is a projection which may have been intended to secure it. The teeth are asymmetrical; the radiograph does not show if the teeth were set or not. It is probably part of a bow- or frame saw, cf. Manning 1985, 21, B22. Overall length 245mm. (LB/NB, 705779).

59. Blade fragment. Possibly, but not certainly, from a draw-knife, cf. Manning 1985, 19, B20. Length 60mm. (LB/NQ, 705768).

60. Mason's pick broken in two parts. One end tapers to a point while the opposite end is chisel-shaped. It has a rectangular eye. An unusually narrow example of a Type 2 pick, cf. Manning 1985, 30. Original length 305mm. (LB/NO, LB/NP, 705778).

61. Padlock. It has a rectangular case attached to a rod which rises from its back. The rod passes through two loops forming the arm of a bolt with one or more V-shaped springs within the chamber. To unlock the mechanism it was necessary to pass a key through a slit at one end of the case, engage it over the spring and thereby close the spring by pushing the key further inside. The spring and arm could then be disengaged. It is a type I barb-spring padlock. For the type cf. Manning 1985, 95. Length 238mm. (LB/NL, 705759).

62. Hook with a straight shank with a loop at one end and a hook at the other; the hook may have held a chain. Midway along the shank is a semi-circular projection with a square hole. The fact that the hole is square possibly rules out it having been a swivel. Possibly a (?)cart fitting. The projection gives it a superficial similarity to a steelyard but the hooked ends prove that it was not. Length 210mm. (LB/OF, 705772/930089).

63. Punch? The tip is lost. Length 54mm. (LB/NU, 705775/930037).

64. Hinge for a door. It is made from a single bar of metal folded into two unequal lengths. A short band has two nail holes while a longer band tapers and has a leaf-shaped terminal with a nail hole. The curved neck narrows and thickens. Since this band is ornamented, presumably it would have been on the outside of the door which, to judge from the space between the bands, was about 22mm thick. For the type - a drop-hinge, cf. Manning 1985, 126, 28-9. Length 230mm. (LB/NF, 705761).

    When found object No. 71 was folded and placed between the arms of the hinge. The objects are not related and were placed together merely to compact the material into a small space.

65. Hinge. A strap with two rivet holes has a looped terminal attached to the perforated end of another strap. The small size of the object would suggest that it was a hinge for a chest or small shutter. A loop-hinge, cf. Manning 1985, 126. Length 66mm. (LB/NS, 705762).

66. Hinge. Two fragments from the same hinge which has been folded in half and broken. A short, narrow, band has two nail holes while the other band is much broader (66mm wide) but reduces in width towards a leaf-shape terminal with a central nail hole. A further elaboration is that the broad band has a narrow raised rib running along its length. The curve of the hinge is of the same width and thickness as the shorter arm. Another large drop-hinge, cf. No. 64 above. Original length of object 345mm. (LB/NC, 705783).

    The thickness of the metal is only about 2mm and it may be assumed, therefore, that the hinge was not intended to support any great weight but a relatively light interior door or shutter.

67. Heavy binding with five pairs of nail holes. It is too long (580mm) to be part of a hinge and the number of nail holes indicate that it was not a barrel hoop. It could have strengthened a door. Width 76mm. (LB/--, 705784).

68. Fragment of binding. Possibly part of No. 69. Length 80mm. (LB/NH, 705787).

69. Fragment of binding. Possibly part of No. 68. It has three rivet holes. Original length 400mm. (LB/OG, 705781).

70. Strip fragment. Length 50mm. (LB/ND, 705788).

71. Folded bar with triangular section and with one end beaten flat and splayed. The function of the object is uncertain. It was found folded up with the hinge (No. 64) but whether it was attached to the same door or shutter is unlikely. The triangular section suggests it might have been the leg of a tripod. Original length 307mm. (LB/NF, 705760).

72. Spike with a hole at one end for a chain or some other attachment. The head is slightly splayed due to hammering. Length 172mm. (LB/NN, 705776).

73. Drill bit? The tip is broken preventing certainty on the form. Length 130mm. (LB/NV, 705763/930097).

74. Bar. One end tapers and is curled into a hook-shape while the wider end is bent at right-angles in the opposite direction and broken. Its function is uncertain. Length 119mm. (LB/NY, 705766).

75. Large nail. Manning Class I. Length 143mm. (LB/OA, 705770).

76. Nail. Manning Class I. Length 71mm. (LB/OC, 705774).

77. Strip of uncertain use. It probably, originally, had tangs at each end. Possibly a cleat similar to Manning 1985, 131, no. 254 from Rushall Down, Wilts. Length 52mm. (LB/NT, 705764).

78. U-shaped joiner's dog, cf. Manning 1985, 131, R52. Overall length 106mm. (LB/NW, 705769).

    Also from the hoard were the fragment of bronze bowl (No. 23) and a number of other nails (not illustrated).

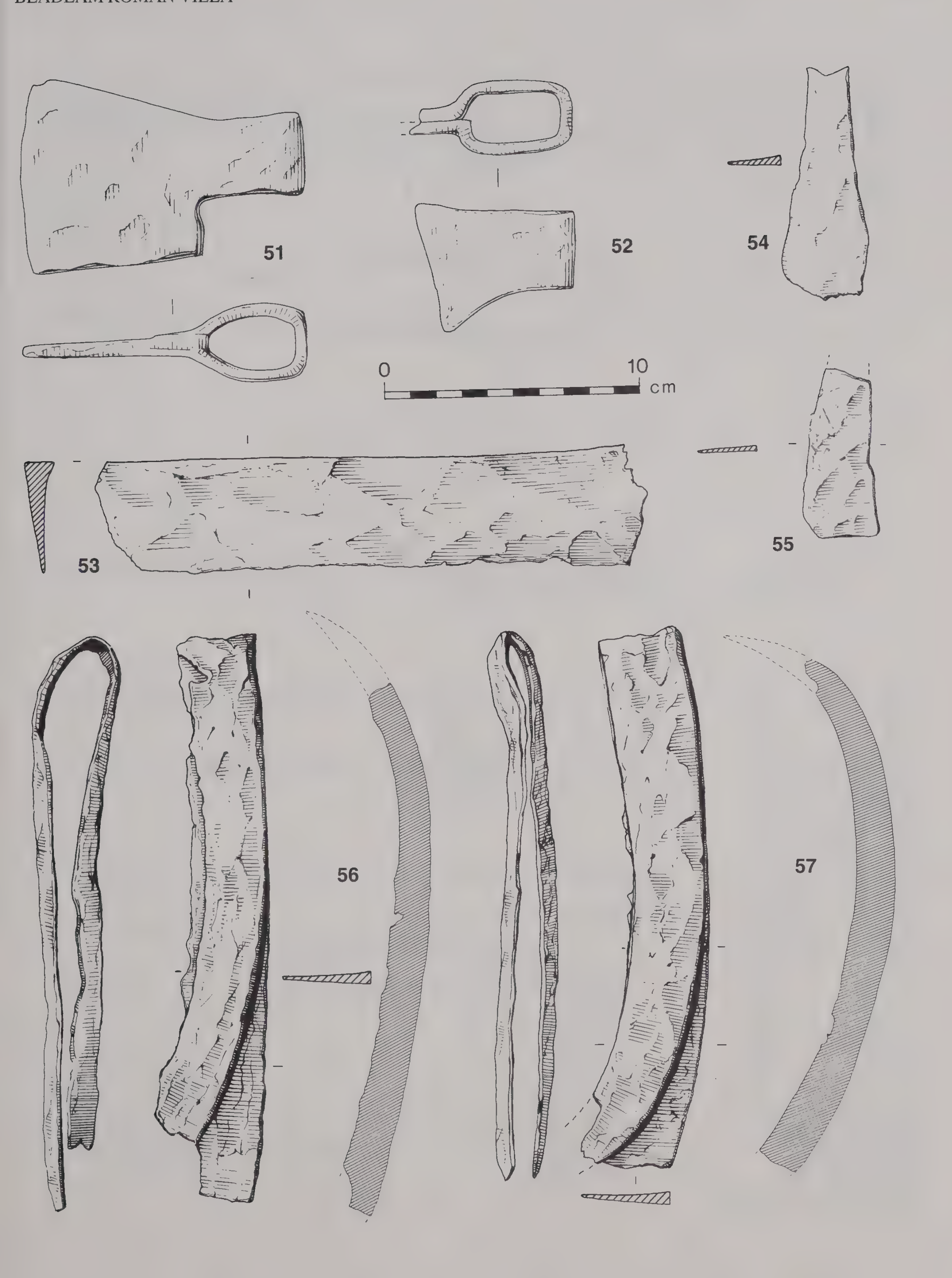


Fig. 35 Objects of Iron; Hoard I, Nos. 51-57.

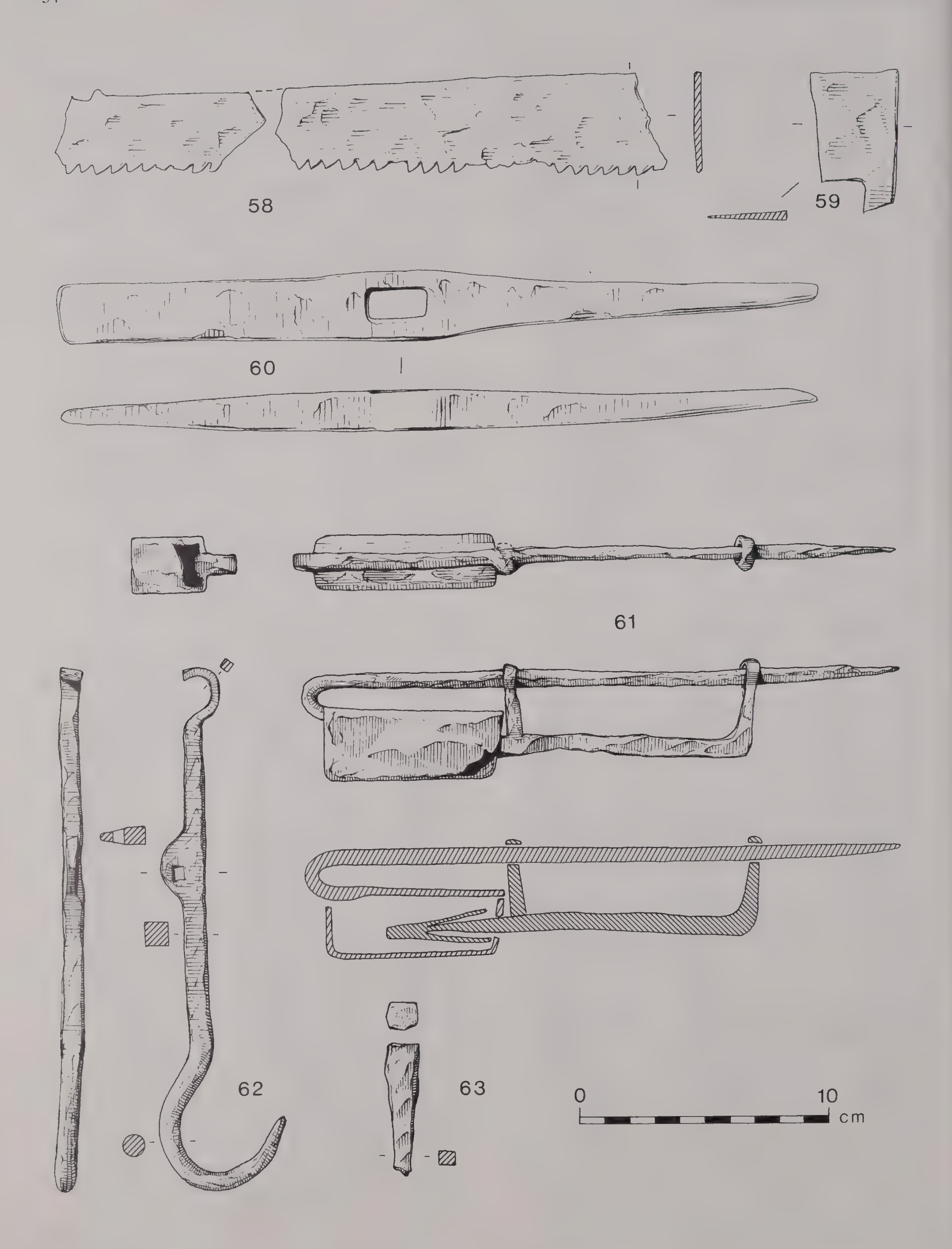


Fig. 36 Objects of Iron; Hoard I, Nos. 58-63.

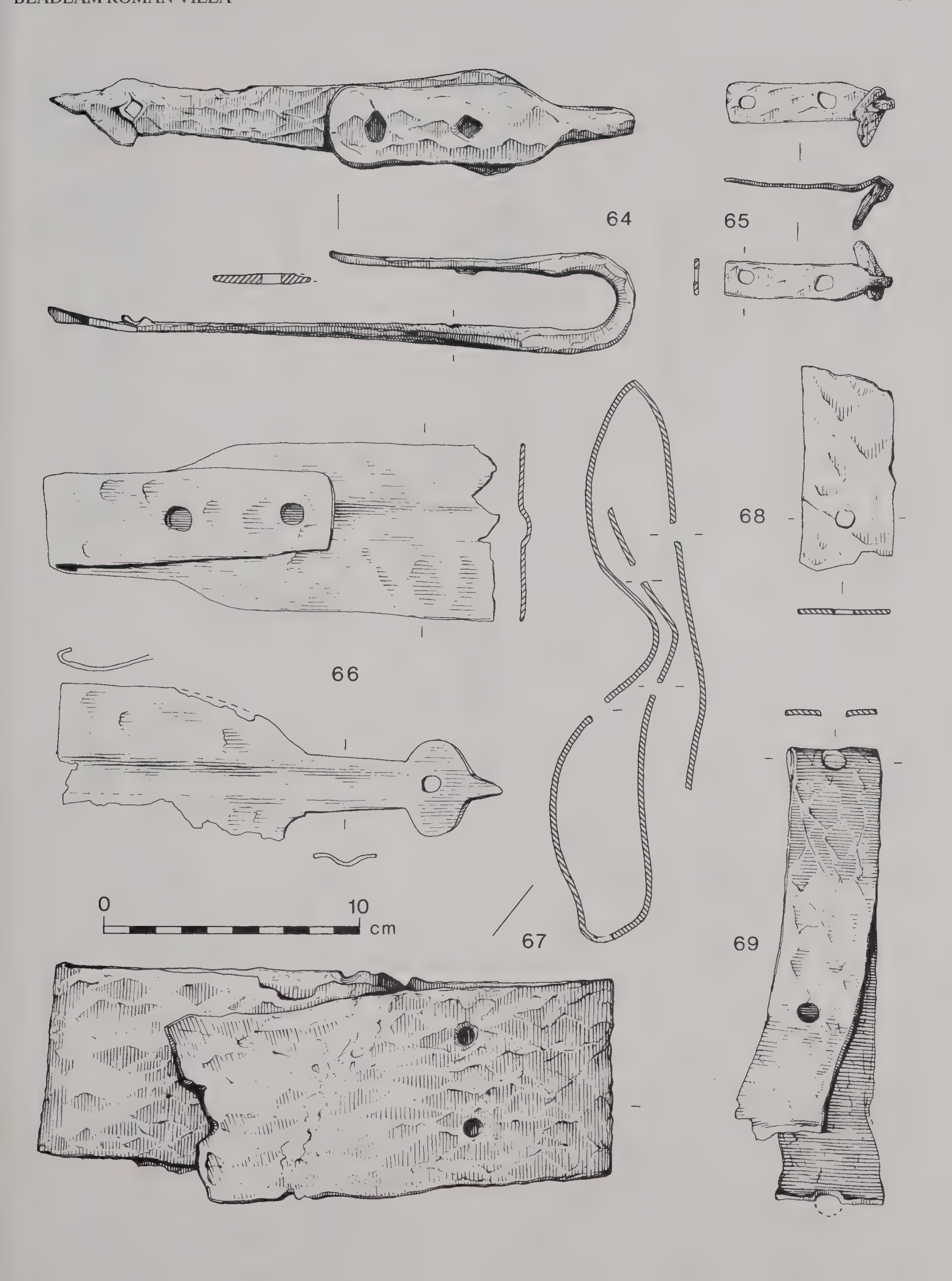


Fig. 37 Objects of Iron; Hoard I, Nos. 64-69.

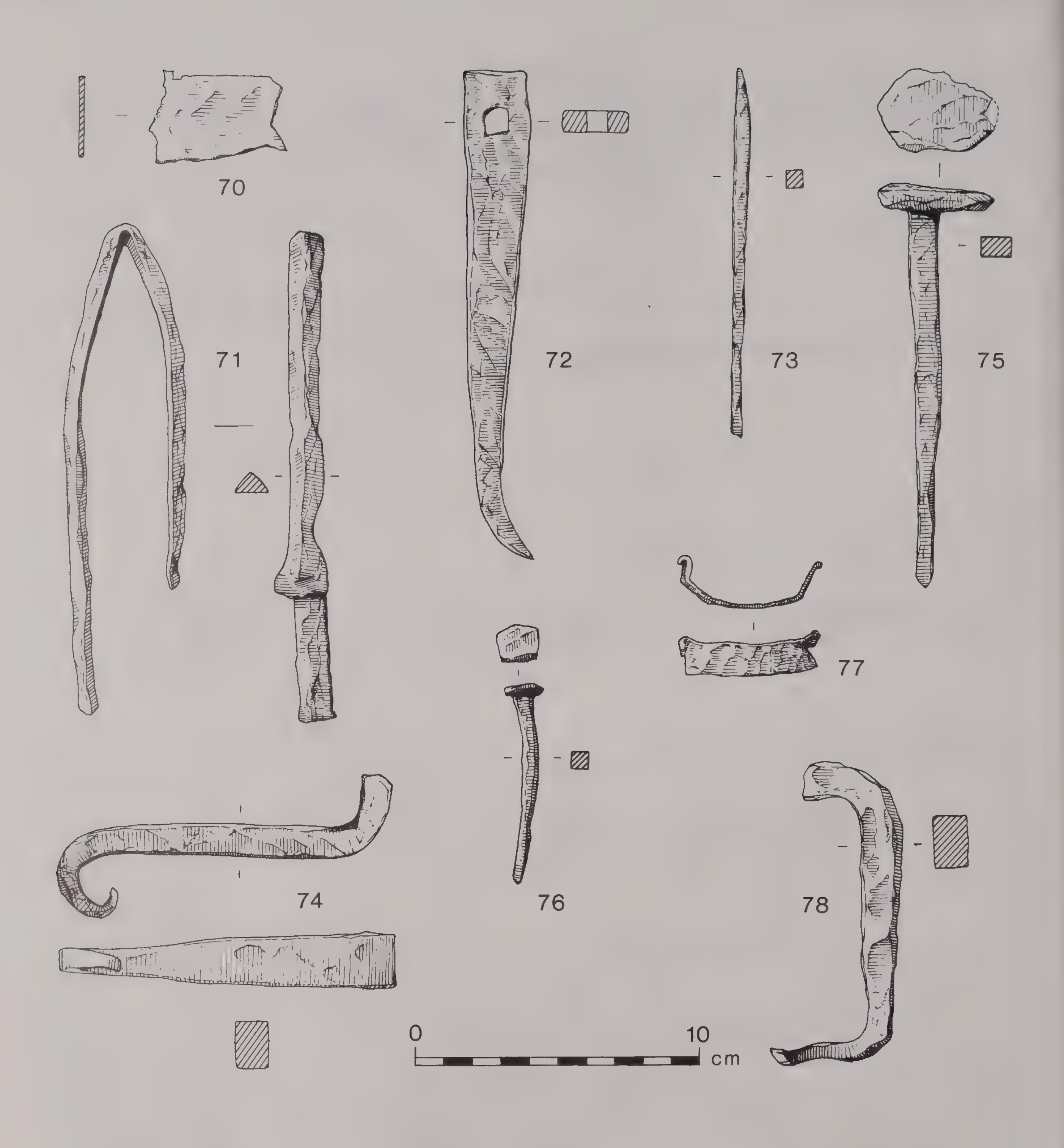


Fig. 38 Objects of Iron; Hoard I, Nos. 70-78.

Hoard II (Fig. 39, Nos. 79-92)

79. Slightly curving bar with an L-shaped head with signs of hammering. The other end has a rounded edge. The sides are slightly widened below the head where it is pierced by a large rectangular hole. Possibly a tool. Length 97mm. (LB/EP, 705797).

80. Trowel. Only the blade survives, cf. Manning 1976, 26, Fig. 5, I. Length 70mm. (LB/EO, 705803).

81. Blade with a T-shape section and with a tang for fitting into a wooden or bone handle. It is an unusual form. Length 87mm. (LB/EN, 930102).

82. Padlock key. The radiograph suggests the presence of a looped handle and a conventional bit. For the type cf. Manning 1985, 91, no. 12 and 96, nos. 71-4. Length 114mm. (LB/EH, 705793).

83. Latch-lifter? For the type cf. Manning 1985, 88. Length 186mm. (LB/EF, 705792).

84. Fragment of rod. There is a possibility from the radiograph that one end of the object was attached to another part. Length 140mm. (LB/EM, 705802).

85. Bar with a rivet hole about midway along its length. It tapers slightly and at the wider, broken, end it is flared as if it was originally the rim to a vessel. If so, the object may be a handle from a

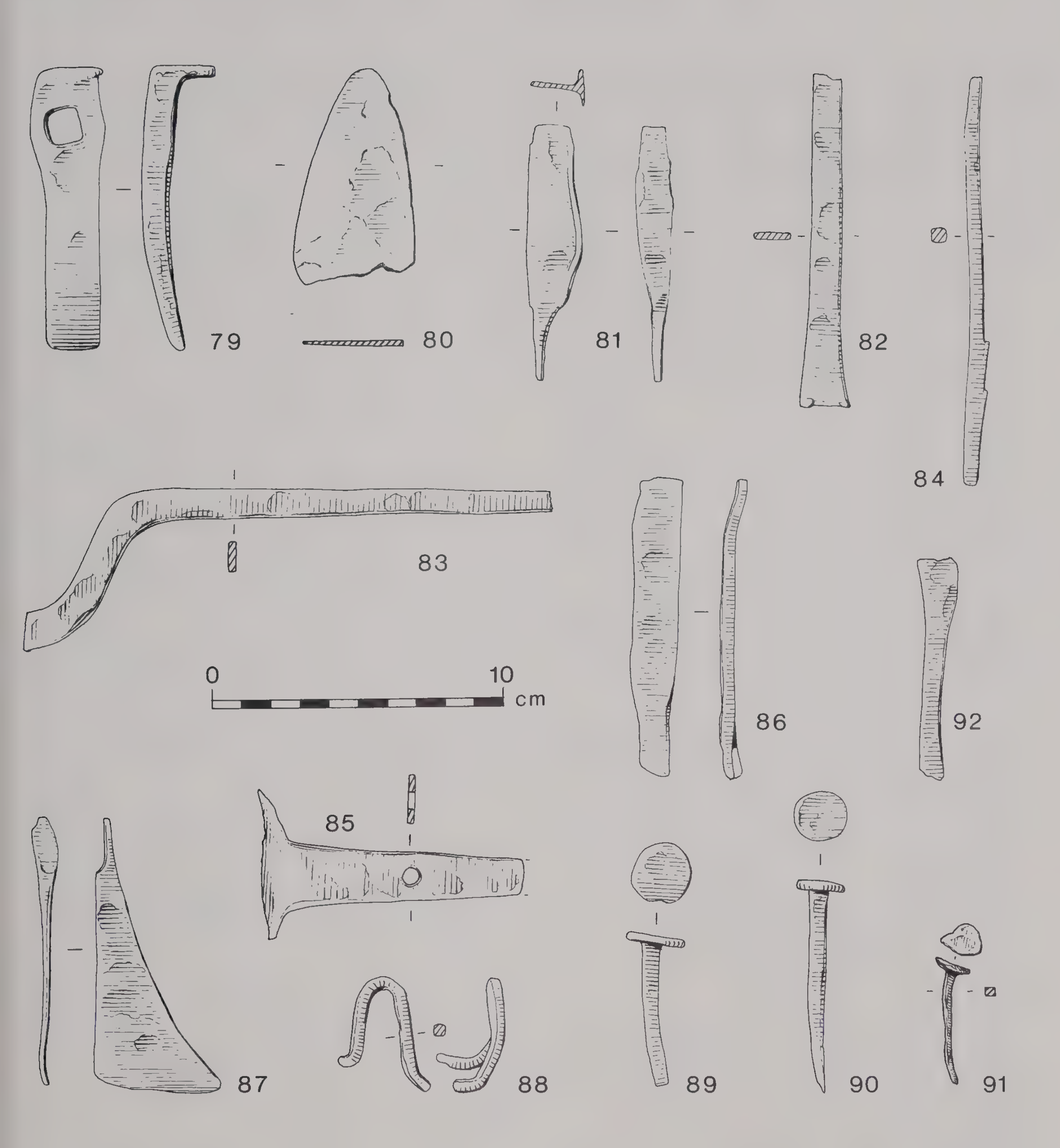


Fig. 39 Objects of Iron; Hoard II, Nos. 79-92.

large ladle originally with a wooden grip. Length 90mm. (LB/EJ, 705795/930029).

86. Fragment of a bar. Length 103mm. (LB/EG, 930103).

87. Possibly a blade for cutting leather. The front edge is straight, the rear edge splays out to form a relatively wide concave edge. At the top is a flat tang. Length 100mm. (LB/EL, 930096).

88. Fragment of chain link. Length 43mm. (LB/ER, 930100).

89. Nail. Manning Class I. Length 51mm. (LB/EE, 930090).

90. Nail. Manning Class I. Length 73mm. (LB/DQ, 705798).

91. Nail. Manning Class I. Length 41mm. (LB/ES, 705804).

92. Fragment. Irregular shaped bar. Length 75mm. (LB/EQ, 705800).

Included in Hoard II are several small, unidentifiable, fragments which have not been illustrated or described. Also from Room 6, but separate from Hoards I and II, are the following objects;

93. Spear. Length 222mm. (LB/OX, 705818).

94. Penannular brooch. An example of the simplest type. Diameter 31mm. (LB/FR, 705758).

Two other objects, including a hook (LB/JQ, 705808) and a tang (LB/HS, 705806), were also found but they cannot be traced among the radiographs.

Objects of iron from elsewhere in the villa complex (Figs. 40 and 41)

95. Carpenter's float or a farrier's rasp. They are effectively indistinguishable, cf. Manning 1985, 28. Length 140mm. Found in the topsoil, Area D12, north-east of Building 6. (LM/AB, 896427).

96. Bell for a cow or goat. 123mm tall. It is formed from a single sheet by rivetting along the edge of one of the narrow sides and is unusually narrow. It was found in the stoke-hole of Room 8, Building 2 and its contents studied by M.J. Allen. Curiously, it contained terrestrial mollusc *Oxychilus cellarius* noted for its carnivorous nature and it is questioned whether the snails may have been associated with a rotting carcass to which the bell belonged but no animal skeleton was found with it! Dr Allen's report on the molluscs is on page 115. (LA/GT, 705813).

97. Smith's hammer. Cross-pene hammer with 'chisel-edge' at one end and a circular dome face at the other. Its circular eye is set in a wide expansion. Several hammers of this type are in the Silchester collection in Reading Museum. Length 120mm. Found in the north-east corner of Room 1. (LB/PK, 705819).

98. L-shaped bar broken at one end. Length 158mm. From courtyard surfaces south of Room 2, Building 1. (LB/PL, 705820).

99. Spatulate-headed lynch-pin with a loop on the head, cf. Manning 1985, 73, fig. 20, no. 26; 74, no. H42. Length 106mm. From over cobbles east of Room 9, Building 1. (LM/AHO, 803063).

100. Flesh hook with two teeth. The handle is broken. Length 260mm. From the north-east corner of Area D12 (LM/CE, 803079).

101. Split spiked-loop or an attachment from a bucket handle, cf. Manning 1985, 105. Max. dimension 120mm. From trench A rubble between Buildings 6 and 7 (LC/CU, 776627).

102. Spring probably from a chest. The broken link, which passes through a hole at the top of the spring suggests that it was attached to a wooden lid. The spring will have been pushed into a socket on the inner face of the chest to close it. Length of spring 100mm. From Room 1, Building 1 (LB/PO, 705822).

103. Hook with a barb. Possibly from a steelyard. For steelyard hooks cf. Manning 1985, 106, nos. P40, P41 and P42. It is probably too large to be a fishing hook unless it was for deep sea fishing. Length 115mm. From Building 2. (LA/CR, 705811).

104. Saw blade. At one end of the blade are the remains of a downturned tang for a handle. The blade is parallel sided with four teeth remaining near the handle. Length 224mm. From south of Building 2. Co-ordinate given as G4 but more likely F4. (LA/CQ, 705814).

105. Fragment of binding tapering to a down-turned spike at one end. One end is broken and a simple Class I nail remains in place. Almost certainly the lower end of a bucket - handle mount which will have had a loop at its top. Complete examples come from the Sibson (Peterborough) Hoard (Manning in prep.). Length 93mm. From south-east corner of Building 1. (LX/ES, 803067).

106. L-shape hinge staple, cf. Manning 1985, 127, no. R12. Length 70mm. From Area C10 over Building 8. (LB/ACN, 803062).

107. Joiners-dog, cf. No. 78 above. Length 55mm. From Building 5. (LC/FW, 776618).

108. Ring. It is unlikely to be a buckle. For similar rings cf. Manning 1985, 140, nos. S18-S48. Diameter 40mm. From Area C6 to south of Room 8, Building 1. (LX/FY, 803069).

109. Ring. Diameter 37mm. From entrance into Room 4, Building 1. (LB/ON, 705823).

110. Buckle. Probably post-Roman. Width 47mm. From Room 1, Building 1. (LB/KW, 705827).

111. Three fragments with their tops bent to form loops secured by twisting the stems around the main stem. One retains a fragment of a link. Length of largest fragment 102mm. From Room 5, Building 1. (LB/CO, 705757).

112. Knife. Its neck is twisted. For a similar neck/handle, with a different blade form, cf. Manning 1985, 119, Q87. Length 66mm. From north-east of Building 6. (LM/CF, 803072).

113. Tanged chisel. There is a suggestion of decorative notches on one edge. A paring chisel, cf. Manning 1985, 21. Length 124mm. From rubble to south of Room 3, Building 2. (LA/CS, 705812).

114. Axe with a strongly backward curving blade and lugs on the back edge on either side of the eye. A Manning Type 4 axe, cf. Manning 1985, 15. Length 128mm. From topsoil over eastern buildings. (LC/AD, 776620).

115. Axe with slightly splaying blade. The front is straight; the back is also straight but runs away at an angle to form a relatively wide, convex, edge. A Manning Type 2 axe, cf. Manning 1985, 15. Length 123mm. From topsoil over eastern buildings. (LC/AP, 776621).

116. Ballista bolt head. Unusually narrow blade. Its cross-section is unknown but was probably either round or circular. For a discussion of the type, and many examples, cf. Manning 1985, 170-7, especially nos. V250 and 253. Length 72mm. From Building 6. (LM/EC, 896417).

117. Arrow head with large, leaf-shaped blade. An alternative identification would be as a small spear-head or ballista bolt, cf. Manning 1985, 162, Group I. Length 108mm. From outside of west wall, Room 10. (LA/GM, 705809).

118. Arrow head with three concave faces, cf. Manning 1985, 177 no. V282. Length of head 37mm. From north-east side of Building 1. (LX/FS, 803068).

119. Knife. Length 140mm. A narrow example of Manning Type 15, cf. Manning 1985, 115. From Room 1, Building 1. (LB/KY, 705810).

120. Knife. An example of Manning Type 18b, cf. Manning 1985, 117. Length 176mm. From courtyard surfaces to south of Building 1. (LB/MW, 705807).

121. Knife. An example of Manning Type 18b, cf. Manning 1985, 117, no. Q58. Length 145mm. From Building 9. (LX/NX, 896424).

122. Knife. Probably a variant of Manning Type 19, cf. Manning 1985, 117, Q63. Length 127mm. From Building 8. (LB/ABX, 803061).

Objects of Stone

Stone roofing slates (none illustrated) were found in both Buildings 1 and 2 and indicate clearly the form of roof covering for both of these structures. Roofing slates were also associated with Building 5. However, there was no evidence that Buildings 3, 6 or 8 were roofed in this way and it is probable that they were covered in reeds or thatch. There is no direct evidence for this but east of Building 4, but not necessarily associated with it, was a stone object which, if not a loom-weight, may have been a thatch weight. Although stone slates predominate the occurrence of tile from the three principal buildings clearly indicates that tile was also used in the roof coverings so we may presume that parts of the roofs, perhaps of different phases, had different forms of covering.

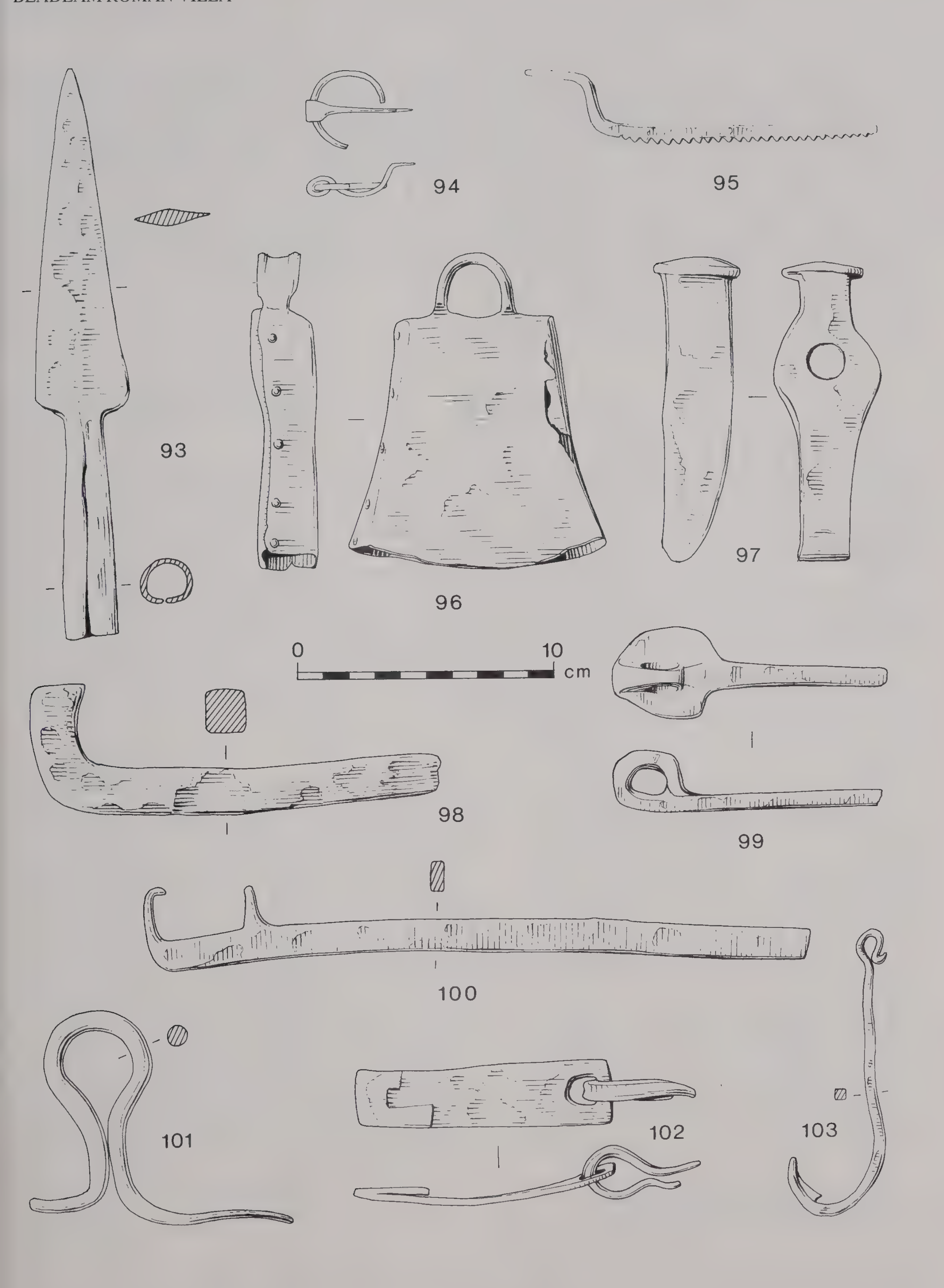


Fig. 40 Objects of Iron, Nos. 93-103.

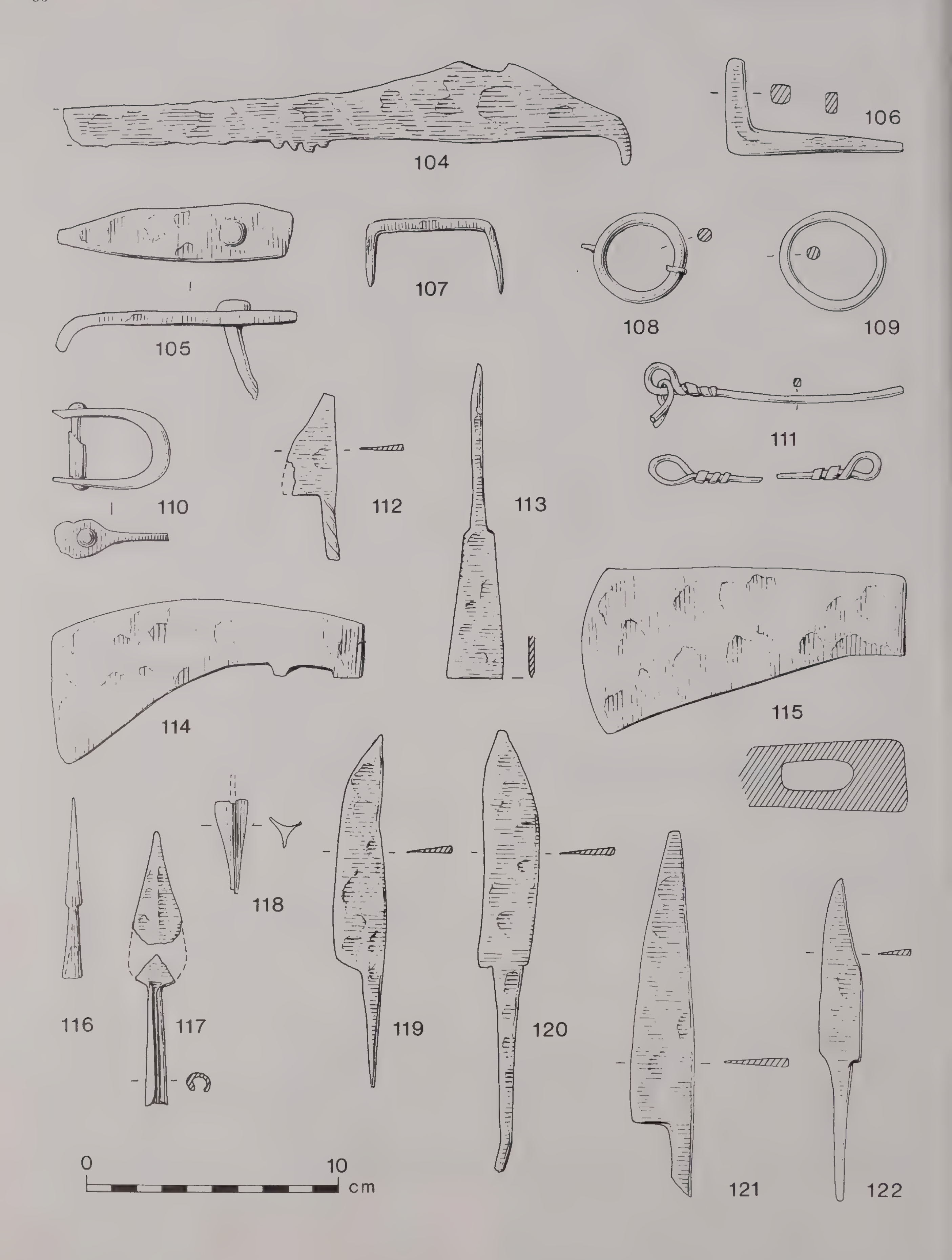


Fig. 41 Objects of Iron, Nos. 104-122.

Other large stone objects included a selection of querns; one fragment (AML 729680), found among the stonework following the completion of the report by D. Heslop (below), has a diameter of about 0.84m indicating that in all probability it was from a powered mill which supports Mr Heslop's suggestion that characteristics of the querns may indicate that the top stones were held in position by a metal band which was connected to some form of driving mechanism.

123. Thatch-weight or loom-weight in oolitic limestone. Length 105mm. From rubble on east side of Building 4 (LC/DE, 729680) (Fig. 42).

THE QUERNS (Fig. 42)

by Dave Heslop

Nine fragments of rotary querns were found during excavation. Of this total, five were in contexts thought to date to the fourth century and the remainder were from the topsoil. None of the stratified group of five were from contexts which might suggest that the querns were *in situ*, and no matching pairs of stones were recovered. Three fragments (Nos. 127, 130 and 131) are almost certainly from the same stone, but as they do not join, they have been catalogued separately, as they appear in the site record, but are discussed as a single stone. (See also comment on a further quern in 'Objects of Stone' by DSN above.)

Morphology

Six of the querns (124-6, 127/130/131, 128 and 132) give an idea of quern form. While all are of the flat rotary type, the assemblage displays a wide variety of proportion, detail and quality of sculpture. Two consistent features may hint at the mode of use of the stones, namely, the apparent lack of sockets for protruding handles, and the vertical nature of the side wall of those of the top stones for which a full profile is available (eg. 125 and 132). These characteristics may indicate that the top-stones were held in position by a metal band which was connected to some form of driving mechanism.

Only one example had a grooved grinding surface (127/130/131), the remainder were dressed with exaggerated pecking. The spiral pattern of this quern is otherwise unknown to the author. The usual grooving pattern was to have the face divided into six or eight segments, each with lines in alternate directions, a pattern that would have been familiar to the inhabitants of this site, as the lava querns (as 129) were typically dressed in this way.

Lithology

All but the lava quern (129) were made from locally available Jurassic sandstones and limestones, probably from the southern edge of the North York Moors. This accounts for the generally poor milling properties of these stones, which would have required constant dressing of the grinding surface to maintain efficiency. Interestingly, no Millstone Grit stones were present in the assemblage, although these are common on other North Yorkshire sites of the period, and it is impossible to imagine that the inhabitants of the villa did not have access to markets trading in the Gritstone querns that possess good milling properties. Indeed, Gritstone querns are more common than lava querns on the Roman settlements of York, Aldborough, Greta Bridge and Malton. The preponderance of locally available rock types may indicate that the site, in its later phases at least, was of relatively low status. The lava quern is of the light grey, vesicular, Neidermendig basalt.

Catalogue

124. Flat top fragment. Diameter 0.53m, height 90mm, width of hopper 80mm, depth of hopper 90mm. Slightly convex upper surface, decorated with a crude circular groove 30mm from lip of hopper, 20mm wide and with an outer diameter of 0.18m, in the same pecked finish as the rest of the stone. Pecked grinding surface with no striations, slightly worn. Pale brown sandstone, probably Jurassic, poor milling stone (LA/HS, 8).

125. Flat top fragment. Diameter 0.38m, height 60mm, width and depth of hopper not known. Pecked grinding surface with no striations. Surface burnt. Brown, fine-grained sandstone, probably Jurassic (LC/FN, 10).

126. Flat top or base fragment. Diameter *c.* 0.35m, height 90mm, width and depth of hopper not known. Fragment less than 20% of top or base with rectangular profile. Crudely pecked grinding surface, little worn. Brown fine grained red sandstone. Very poor milling stone (LC/HS, 8).

127. Flat top fragment. Diameter not known, height 130mm, depth of hopper 130mm, height of hopper not known. Probably same stone as Nos. 130 and 131. Pecked grinding surface covered with closely spaced grooves 10mm wide, radiating from feed-hole in a gentle 'S'-shaped wavy line. Medium grey limestone with large (up to 5mm) avicular fossil pits. Brown, well rounded and sorted pebble inclusions (less than 5mm). Very poor milling stone - would not function as a quern without the dressed grinding surface (LX/LU, 10).

Mid-late fourth century

128. Flat top fragment (less than 10%), measurements not known. Very damaged top-stone, with no part of grinding face, hopper or any handle holes surviving. Part of cylindrical central feed-pipe of approximately 30mm diameter extant. Enough outer wall visible to show curved profile, almost giving a height/base ratio of a flat beehive type. Outer surface lightly pecked to give smooth and regular finish. Secondary use suggested by polished facet on outer wall, at least 40mm across. Red, very fine grained, highly micaceous sandstone. Poor milling properties (LB/AE, F).

129. Flat top or base fragment (less than 5%), measurements not known. Undiagnostic fragment, recognised as a quern by lithology, although could conceivably be a mortar. Medium grey-blue Neidermendig basalt (BB/BE, 8).

130. Flat top fragment (less than 15%), diameter uncertain, height 130mm, width of hopper not known, depth of hopper 130mm. Probably same stone as Nos. 127 and 131. Pecked grinding surface surviving (LX/ND).

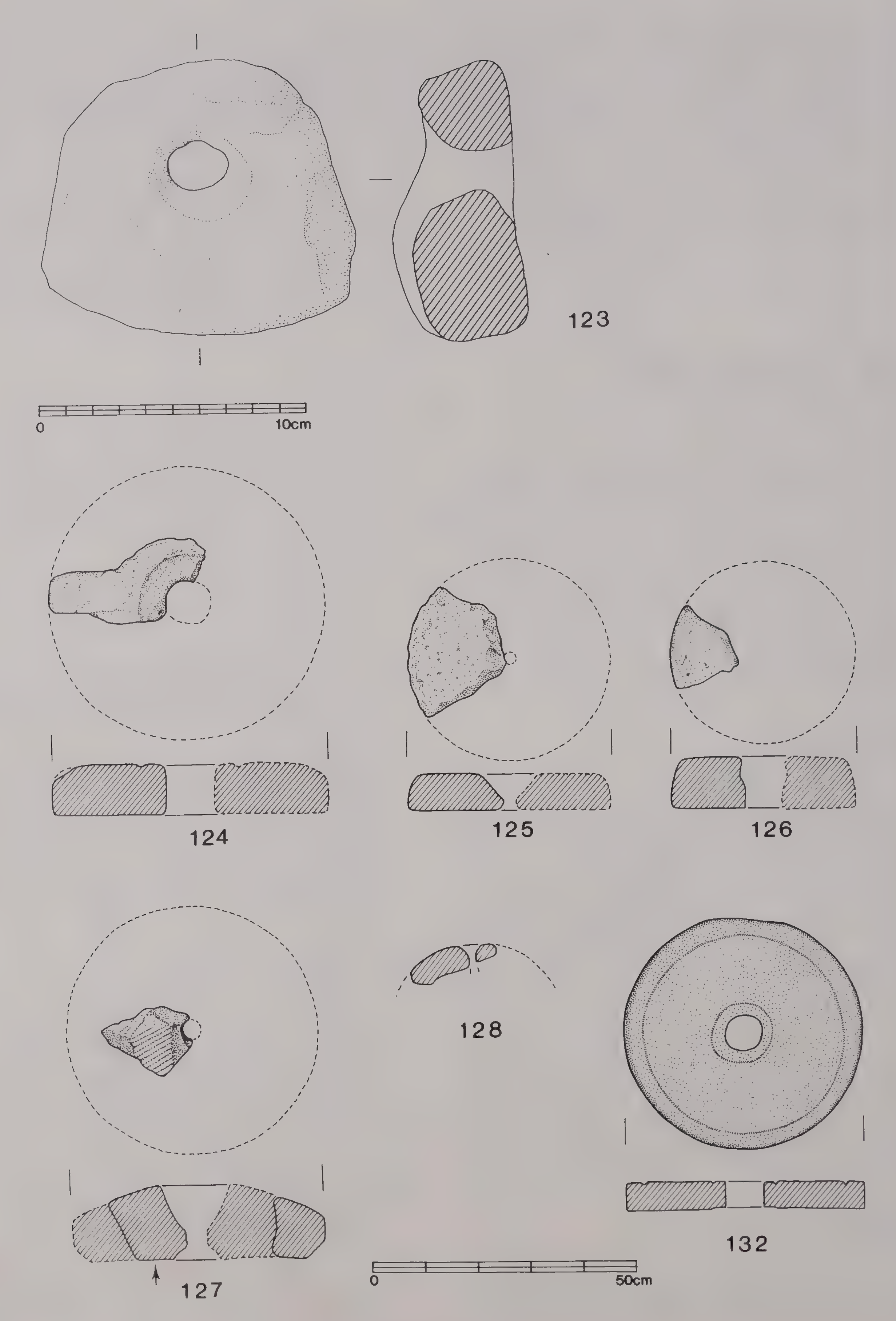


Fig. 42 Stone weight (No. 123) and the querns.

131. Flat top fragment (less than 10%), diameter uncertain, height 0.13m, width of hopper uncertain, depth of hopper 0.13m. Probably same stone as Nos. 127 and 130. Pecked grinding surface (LB/B9).

132. Flat top, complete, diameter 0.45m, height 0.70m, width of hopper 65mm, depth of hopper 0.70mm. Disc rotary upper stone with neat cylindrical central perforation. Very straight and regular outer wall. No trace of vertical or horizontal handle holes; the handle(s) may have been attached to a metal band around the outer wall. One facet of wall is lost, presumably where the band was clamped to the stone. Grinding surface worn concave by maximum of 10mm. Centre of face has unusual rynd recess, 2mm deep by 120mm in diameter (?for metal flange). Upper surface decorated with two faint incised lines: inner 250mm from hopper lip, approximately 7mm wide and 3mm deep; outer 350mm from outer edge and barely visible. Micaceous, slightly laminated yellowish sandstone, occasional large (up to 10mm) fossil pits, possibly Crinoid Grit. Turbulently bedded, which provides much of the abrasive character of the stone. Moderately poor milling properties - the best of the local types from the site.

An unpublished top-stone from Woodhouse Farm, Crayke, North Yorkshire (recorded by the late Dr D.A. Spratt) is identical in all points (including the precise dimensions) except for the absence of the outermost decorative incised line and a horizontal handle slot in the upper face. The Beadlam stone is clearly the product of the same quern factory. The differences in detail show that the decorative features and handle holes were added after production, probably on the consumption site, to suit the mode of use (mechanical drive, hand-power etc). This has been suggested for beehive quern production (Heslop 1989, 64), but not as yet for rotary types.

THE COINS

by Craig Barclay

During the excavations at Beadlam between 1972-8 a total of 121 Roman coins were recovered, the overwhelming majority of which (*c*. 85%) were of fourth-century date. These pieces supplement the 210 coins unearthed during the excavations of 1969 which were recorded by P.E. Curnow (1971 (reproduced below)). The overall composition of the material from the site can be summarised in Table 1 below.

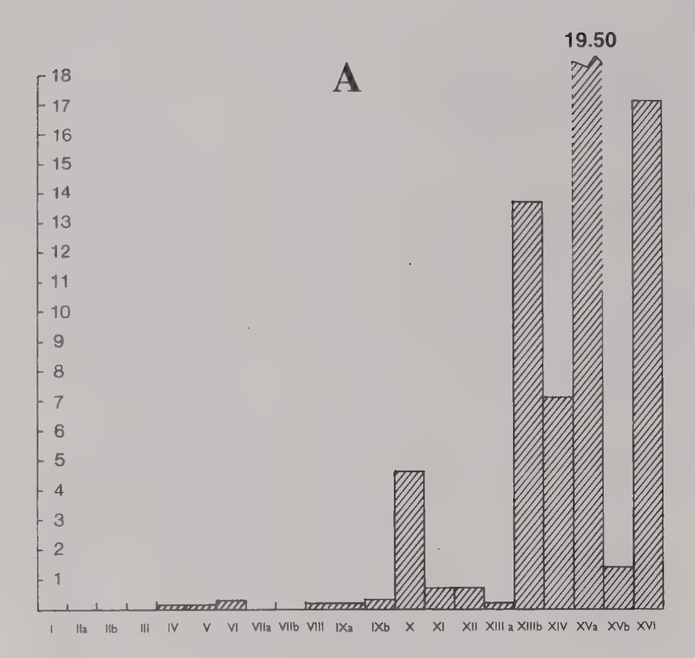
No coins of first-century date were recovered, and only six coins, amounting to less than 2% of the total, were struck (but need not have been lost) in the second or early third centuries. The bulk of the third-century material recovered consisted of low value argentiferous bronze radiates of the Gallic emperors, their central counterparts, and the British usurpers Carausius and Allectus. Nine contemporary imitations of radiates were also excavated, and these, like the official types which they copied, could have continued to circulate well into the fourth century. Issues of the period 259-94 account for just under 8% of the total number of coins recovered from the Beadlam site, a figure which falls far below the 25%+ which might be expected on a 'typical' Romano-British site (Reece 1987, 83). This low figure is, however, to a certain extent a reflection of a more significant characteristic of the Beadlam villa - the overwhelming preponderance of late fourth -century bronzes.

As can be seen in Figure 43, the majority of the coins can be assigned to the period A.D. 330-402, being almost without exception small, low denomination bronzes. As would be

Table 1

Quantifications of coins from the site

Period	Date	No. of Coins	% of total	Annual loss per 1000 coins
I	– A.D.41	-	-	-
IIa	41-54	-	-	-
IIb	54-69	-	-	-
III	69-96	-	-	-
IV	96-117	1	0.30	0.16
V	117-38	1	0.30	0.16
VI	138-61	2	0.60	0.29
VIIa	161-80	-	-	-
VIIb	180-93	-	-	-
VIII	193-222	2	0.60	0.23
IXa	222-38	1	0.30	0.21
IXb	238-59	2	0.60	0.32
X	259-75	22	6.65	4.58
XI	275-94	4	1.21	0.70
XII	294-317	5	1.51	0.72
XIIIa	317-30	1	0.30	0.26
XIIIb	330-48	71	21.45	13.13
XIV	348-64	33	9.97	6.87
XVa	364-78	82	24.78	19.50
XVb	378-88	4	1.21	1.33
XVI	388-402	69	20.85	16.41
-	C4th A.D.	22	6.65	-
-	uncertain date	9	2.72	-



Whilst undoubtedly unusual, the pattern of loss observed at Beadlam is nevertheless not unique, a very similar group of coins (Fig. 44) came from the nearby villa at Langton (Mattingly 1932). Here again we can see a pattern of loss dominated by issues of the later fourth century, with debased radiates of the Tetrarchy and their contemporaries relatively less well represented and earlier coins almost wholly absent. The question of the numerous Valentinianic and late Theodosian coins nevertheless remains, and may be explicable in terms of increased general commercial activity on the site, perhaps, as has been suggested in the case of Langton (Curnow 1988, 69), reflecting a link with the signal stations of East Yorkshire. Alternately, however, we should recognise the possibility that the increased loss of coins may reflect nothing more than an increase in the number of small, cash-based, transactions being conducted on the site, or being conducted elsewhere by those resident in the villa. Small, low value coins are, furthermore, more likely to be dropped and, once dropped, less likely to be retrieved than larger or more valuable coins.

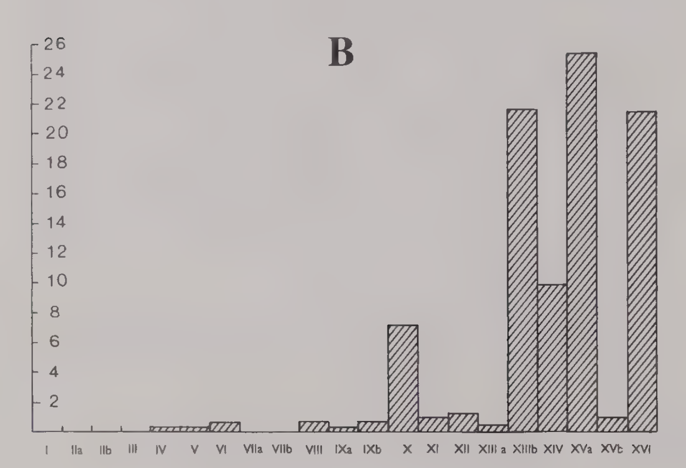


Fig. 43 Coin histograms. a) Annual loss per 1000 coins. b) Percentage of total.

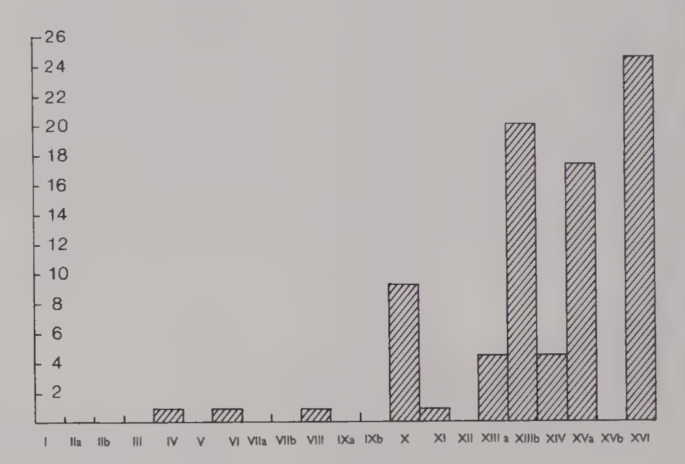


Fig. 44 Langton; coin loss per period as percentage of total.

expected on a British site, numerous imitations of late Constantinian bronzes and of issues of the mid-350s were present, whilst the official high value billon issues of the 350s onwards are almost wholly absent. Elsewhere, the period 330-48 typically provides the largest single group of coins to be found with *GLORIA EXERCITVS, VRBS ROMA, CONSTANTINOPOLIS* and *VICTORIAE DD AVGGQ NN* issues dominating. At Beadlam the pattern is different, and finds of this period are greatly exceeded both in actual numbers and in terms of annual loss per thousand coins by Valentinianic issues of 364-78 and late Theodosian issues of 388-402. That notwithstanding, early Theodosian coins of the intervening period are, in common with the national pattern, very poorly represented. The array of mints represented is likewise exactly as one might expect, with the vast majority of the legible pieces being assignable to the Gallic mints:

Arles	14
Trier	10
Lyons	6
Aquileia	3
Rome	3

Indeed, thriving commercial activity on a site need not be accompanied by substantial coin loss, especially if it is centred around major transactions based upon barter, credit, or the exchange of high value coins. It is even possible that the large number of late Roman coins are symptomatic of a coinless economy, having been discarded wholesale as worthless.

Acknowledgement

An initial examination and identification of the coins considered above was conducted by P.E. Curnow, and the author gratefully acknowledges his valued contribution to this report.

The Coin Lists

The 1969 Coin List
by Peter E. Curnow

Coins from Buildings 1 and 2 (taken from Curnow 1971, 186);

1	Hadrian	117-38
2	Antoninus Pius	138-61
3	Faustina I (Ant. Pius) (irregular)	140+
4	Caracalla (Sept. Sev.)	196-211
5	Julia Domna (Sept. Sev.) (irregular)	196+
6	Valerian	253-59
7	Gallienus (Sole reign)	259-68
8	Claudius II	268-70
9-11	Victorinus	268-70
12-13	Tetricus I	270-73
14	Tacitus	275-76
15-17	Irregular Radiates	*c.* 270
18	GENIO POPULI ROMANI (irregular)	305+
19-20	SOLI INVICTO COMITI	314-17
21	BEATA TRANQUILLITAS	321-22
22-24	GLORIA EXERCITUS, 2 standards (irregular)	330+
25	Wolf and Twins	330-35
26-27	Wolf and Twins (irregular)	330+
28-34	Victory on Prow	330-37
35-40	Victory on Prow (irregular)	330+
41-51	GLORIA EXERCITUS, 1 standard	335-41
52-56	GLORIA EXERCITUS, 1 standard (irregular)	335+
57-58	PIETAS ROMANA	337-41
59	VIRTUS AUGG NN	338-39
60	VIRTUS AUGUSTI	336-41
61-70	VICTORIAE DD AUGGQ NN	341-48
71-72	VICTORIAE DD AUGGQ NN (irregular)	341+
73-74	FEL TEMP REPARATIO (Galley)	348-50
75	FEL TEMP REPARATIO (Fallen Horseman AE2)	350-51
76	VICTORIAE DD NN AUG ET CAE	351-53
77-78	FEL TEMP REPARATIO (Fallen Horseman)	353-61
79-94	FEL TEMP REPARATIO (Fallen Horseman) (irregular)	353+
95	SPES REIPUBLICAE	355-61
96	URBS ROMA	364-67
97-109	GLORIA ROMANORUM	364-78
110-46	SECURITAS REIPUBLICAE	364-78
147-50	GLORIA NOVI SAECULI	367-75
151-62	VICTORIA AUGGG	388-402
163-90	SALUS REPUBLICAE	388-402
191-93	House of Theodosius I	388+
194-202	Uncertain fourth century	–
203-06	Uncertain Minims	–
207-10	Uncertain fragments	–

The 1972-8 Coin List
by Craig Barclay

Pre-A.D. 260

1. AR den.; 2.68g; Trajan; Rome; *Obv.* IMP TRAIANO AVG GER DAC PM TR P COS VI PP; *Rev.* SPQR OPTIMO PRINCIPI, ALIM ITAL in ex., *RIC* 243; A.D. 112-4.
LX/EG.

2. AE sest.; 19.07g; Severus Alexander; Rome; *Obv.* IMP CAES M AVR SEV ALEXANDER AVG; *Rev.* LIBERTAS AVGUSTI, S-C; *RIC* 583; A.D. 222-31.
LC/CO.

3. AE ant.; 3.48g; Salonina (under Gallienus and Valerian); Rome; *Obv.* SALONINA AVG; *Rev.* IVNO REGINA; *RIC* 29/*Cunetio* 651; A.D. 253-60.
LM/DA.

A.D. 261-96 regular issues

4. AE ant.; 2.33g; Claudius II; Rome; *Obv.* [IMP] C CLAVDIVS [AVG]; *Rev.* LI[BERT AV]G, X in field right; *RIC* 62/*Cunetio* 2084; A.D. 268-70.
LX/AH.

5. AE ant.; 2.29g; Victorinus; Mint II; *Obv.* [IMP C VICTORINVS] P F AVG; *Rev.* SALV[S AV]G; *Cunetio* 2567; A.D. 268-70.
LC/EV.

6. AE ant.; 1.82g, Tetricus I; Mint I; *Obv.* IMP C TET[RICVS P F AVG], *Rev.* PAX AVG; *Cunetio* 2603; A.D. 270-3.
LM/AM.

7. AE ant.; 1.13g; Tetricus I; Mint II; *Obv.* IMP TETRIC[VS P F AVG]; *Rev.* HILAR[ITAS AVGG], *Cunetio* 2648; A.D.270-3.
LX/GR.

8. AE ant.; 1.19g; Tetricus I, otherwise illegible; A.D. 270-3.
LB/ST.

9. AE ant.; 1.64g; Tetricus II; *Obv.* [ ]ES[ ]; *Rev.* Spes advancing left; A.D. 270-3. The coin has subsequently been overstruck, but the overtype is illegible.
LX/LR.

10. AE ant.; 3.68g; Carausius; London; *Obv.* IMP C CARAVSIVS P F AVG; *Rev.* PAX AVGGG; S/P// MLXXXI; *RIC* 141; A.D. 286-93.
LB/VD.

11. AE ant.; 2.71g; Carausius; *Obv.* IMP CARAVSIVS P AVG; *Rev.* PAX AVG; *RIC* 881; A.D. 286-93.
LM/AJ.

12. AE ant.; 3.52g; Allectus; Gloucester?; *Obv.* IMP C ALLECTVS P AVG, *Rev.* PAX AVG; S/P//C; *RIC* 87/ *Burnett* 154, A.D. 293-6.
LX/NN.

A.D. 260-96 imitations

13. AE im. ant.; 0.54g; 'Claudius II, posthumous issue'; *Obv;* [DIVO CLAVDIO]; *Rev.* [CONSECRATIO], altar; post A.D. 270.
LX/LS.

14. AE im. ant.; 0.86g; 'Claudius II, posthumous issue'; *Obv.* [DIVO CLAVDIO]; *Rev.* [CONSECRATIO], crude altar; post A.D. 270.
LX/FB.

15. AE im. ant.; 0.89g; 'Tetricus I'; *Obv.* [ ] TETRICVS P F [ ] *Rev.* Salus; post A.D. 270.
LX/AJ.

16. AE im. ant., 1.05g; 'Gallic Empire'; *Rev.* standing figure; post A.D. 270.
LX/FK.

17. AE im. ant.; 0.12g; fragment or irregular 'minim'; late third century A.D.
LX/DU.

18. AE. im. ant.; 0.23g; fragment or irregular 'minim'; late third century A.D.

A.D. 310-30 regular issues

19. AE ½ follis; 1.90g; Constantine I; Trier; *Obv.* CONSTANTINVS AVG; *Rev.* SOLI INVICTO; PTR; *RIC* VI, Trier 899; A.D. 310-11.
LM/DZ.

20. AE follis; 2.32g; Constantine I; Trier; *Obv.* CONSTANTINVS P F AVG; *Rev.* SOLI INVICTO COMITI; T/F//BTR; *RIC* VII, Trier 104; A.D. 316.
LX/MJ.

A.D. 330-48 regular issues

21. AE3; 2.00g; House of Constantine I; Trier; *Obv.* CONSTANTINOPOLIS; *Rev.* Victory on prow; branch // TRP; *RIC* VII, Trier 563; A.D. 333-4.
LM/HQ.

22. AE3; 0.86g. (chipped); Constantine I; Arles; *Obv.* [CONSTANTINVS] MAX AVG; *Rev.* GLORIA EXERC[ITVS], 2 standards; ★//[ ]CONST; *RIC* VII, Arles 345; A.D. 330-1.
LM/CU.

23. AE4; 1.07g; Constantine II, as Caesar; Trier; *Obv.* [CONSTANTI]NVS IVN N C; *Rev.* GLORIA EXERC[ITVS], 1 standard; TR[ ]; *RIC* VII, Trier 592; A.D. 335-7.
LB/US.

24. AE4; 1.38; House of Constantine I; *Obv.* [ ]VG; *Rev.* GLORIA EXER[CITVS], 1 standard; A.D. 337-41.
LM/LE.

25. AE4; 0.94g; House of Constantine I; *Rev.* [GLORIA EXERCITVS], 1 standard; A.D. 335-41.
LX/MO.

26. AE4; 1.54g; Helena; Trier; *Obv.* FL IVL HE[LENAE AUG]; *Rev.* [PAX PV]BLICA; •TRS• ; *RIC* VIII, Trier 63; A.D. 337-40.
LB/XK.

27. AE4; 1.12g; Constantius II; Lyons; *Obv.* CONSTANTIVS P F AVG; *Rev.* VICTORIAE DD AVGGQ NN, S over T//[ ]; *RIC* VIII, Lyons 45; A.D. 347-8.
LB/XJ.

28. AE4; 0.25g, fragment; Constantius II/Constans; Trier; *Obv.* [C]ONSTA[ ]; *Rev.* [VICTORIAE AVG]GQ [NN]; leaf// [ ]; cf. *RIC* VIII, Trier 184/6; A.D. 347-8.
LB/XN.

29. AE4; 1.52g; Constans; Trier; *Obv.* CONSTANS P F AVG; *Rev.* VICTORIAE DD AVGGQ NN; ★//TR[ ]; *RIC* VIII, Trier 187; A.D. 347-8.
LC/BH.

30. AE4; 1.56g; Constans; Trier; *Obv.* [CONSTAN]S P F AVG; *Rev.* [VICTORIAE DD AVGGQ NN]; D//TRP; *RIC* VIII, Trier 194; A.D. 347-8.
LM/MA.

31. AE4; 1.21g; Constans; Trier; *Obv.* [CONST]ANS P F AVG; *Rev.* VICT[ORIAE DD AVGGQ NN]; D//TRS; *RIC* VIII, Trier 193; A.D. 347-8.
LB/XF.

32. AE4; 1.40g; Constans; Trier; *Obv.* CONSTANS P F AVG; *Rev.* VICTORIAE DD AVGGQ NN; ε//TRS; *RIC* VIII, Trier 197; A.D. 347-8.
LX/HZ.

33. AE4; 1.54g; Constans, Trier; *Obv.* CONSTANS P F AVG; *Rev.* VICTORIAE DD AVGGQ NN; branch// TRS•; *RIC* VIII, Trier 207; A.D. 347-8.
LX/BT.

34. AE4; 1.18g; Constans; *Rev.* [VICTORIAE DD AVGGQ NN]; A.D. 347-8.
LM/LZ.

35. AE4; 0.86g; Constantius II/Constans; *Rev.* VIC[TORIAE DD AVGGQ NN]; A.D. 347-8.
LB/UA.

36. AE4; 0.68g; Constantius II/Constans; *Rev.* [VICTORIAE DD AVGGQ NN]; A.D. 347-8.
LC/CF.

37. AE4; 1.90g, partly fused; Constantius II/Constans; *Rev.* [VICTORIAE DD AVGGQ NN]; A.D. 347-8.
LM/LW.

A.D. 330-48 imitations

38. AE4; 1.28g; 'Constantine I'; 'Trier'; *Obv.* CONSTANTINVS M[ ], bust left; *Rev.* GLO[RIA EXERCIT]VS, 2 standards; TRS, post A.D. 330.
LM/LR.

39. AE4; 0.35g, fragment; 'House of Constantine I'; *Rev.* [GLORIA EXERCITVS], 2 standards; post A.D. 330.
LB/XM.

40. AE4; 0.50g; 'House of Constantine I'; *Obv.* Helmeted head left; *Rev.* Standing figure; post A.D. 330
LM/AQ.

A.D. 348-60 imitations

41. AE3; 1.75g; 'Magnentius'; *Obv.* DN MAGNENTIVS P F AVG; *Rev.* [VI]C[TORIAE D]D NN AV[G ET C]; SIIII; post A.D. 350.
LC/AH.

42. AE4 (minim); 0.24g; 'Constantius II'; *Obv.* [ ]ANTIV[ ]; *Rev.* [FEL TEMP REPARA]TIO, horseman; post A.D. 354.
LX/NM.

43. AE4 (minim); 0.30g; 'Constantius II'; *Obv.* [ ]TIVS P F AV; *Rev.* [FEL TEMP REPARATIO], horseman; post A.D. 354.
LX/CT.

44. AE3; 1.55g; 'Constantius II/Constans'; *Rev.* [FEL TEMP REPARATIO], horseman; post A.D. 354.
LC/BL.

45. AE4; 0.68g; 'Constantius II/Constans'; *Rev.* [FEL TEMP REPARATIO], horseman, post A.D. 354.
LC/HC.

46. AE4 (minim); 0.56g; 'Constantius II/Constans'; *Rev.* [FEL TEMP REPARATIO], horseman; post A.D. 354.
LC/DK.

47. AE4 (minim); 0.32g; 'Constantius II/Constans'; *Rev.* [FEL TEMP REPARATIO], horseman, post A.D. 354.
LC/FX.

48. AE4 (minim); 0.36g; 'Constantius II/Constans'; *Rev.* [FEL TEMP REPARATIO], horseman; post A.D. 354.
LB/WR.

49. AE4 (minim); 0.37g; 'Constantius II/Constans'; *Rev.* [FEL TEMP REPARATIO], horseman; post A.D. 354.
LX/MQ.

50. AE2/3, possibly imitating siliqua; 1.75g, ?'Constantius II'; *Obv.* Pearl diademed bust right; *Rev.* Wreath enclosing barbarous 'Votis' inscription; *c.* later 4th century A.D.
LC/CG.

A.D. 364-78 reqular issues

51. AE3; 2.89g; Valentinian I; Lyons; *Obv.* [D N VALENTINIANVS P F AVG]; *Rev.* RESTIT[VTOR REIPVB]; SLVG; *RIC* IX, Lyons 11a; A.D. 364-7.
LM/BA.

52. AE3; 2.34g; Valentinian I; Lyons; *Obv.* D N VALENTINIANVS P F AVG; *Rev.* GLORIA ROMANORVM; O/FII//LVGSD; *RIC* IX, Lyons 10a; A.D. 367-75.
LC/ET.

53. AE3; 2.57g; Valentinian I; Arles; *Obv.* [D N VALENTINI]ANVS P F AVG, *Rev.* [GLORIA RO]MANORVM; O/FII//[ ]NS[ ]; A.D. 364-75.
LC/CX.

54. AE3; 2.89g; Valentinian I; Arles; *Obv.* D N VALENTINIANVS P F AVG; *Rev.* [GLORIA] ROMANORVM; OF/III//[ ]; A.D. 364-75.
LM/JB.

55. AE3; 1.97g; Valens; Arles; *Obv.* D N VALENS P F AVG; *Rev.* GLORIA ROMANORVM; OF/II//CON; *RIC* IX, Arles 16b; A.D. 367-75.
LX/KK.

56. AE3; 0.84g; Valens; *Obv.* [D N VALEN]S P F AVG; *Rev.* [GLORIA ROMANORVM]; A.D. 364-78.
LC/CP.

57. AE3; 1.07g; House of Valentinian I; *Rev.* [GLORIA ROMANORVM]; ★//[ ]; A.D. 364-78.
LB/ACB.

58. AE3; 1.63g; House of Valentinian I; *Rev.* [GLORIA ROMANORVM]; O/FII//[ ]; A.D. 364-78.
LC/AV.

59. AE3; 1.43g; House of Valentinian I; *Rev.* [GLORIA ROMANORVM]; A.D. 364-78.
LC/AC.

60. AE3; 0.76g; House of Valentinian I; *Rev.* [GLORIA ROMANORVM]; A.D. 364-78.
LB/VB.

61. AE3; 2.09g; Valentinian I; *Obv.* D N VALENTINIANVS P F AVG; *Rev.* [SECVRITAS] REIPVBLICAE; SCON; *RIC* IX, 17a; A.D. 367-75.
Unprovenanced.

62. AE3; 1.50g; Valentinian I; Aquileia; *Obv.* [D N VA]LENTINI[ANVS P F AVG]; *Rev.* [SECVRITAS REIPVB]LICA[E]; A//SMAQP; *RIC* IX, Aquileia 9a; A.D. 364-7.
LX/KM.

63. AE3; 1.50g; Valens; Lyons; *Obv.* D N VALEN[S P F AVG]; *Rev.* [SECVRITAS REIPVBLICAE]; OF/I//[LV]GP[ ]; A.D. 367-75.
LC/FC.

64. AE3; 2.10g; Valens; Arles; *Obv.* D N VALENS P F AVG; *Rev.* SECVRITAS REIPVBLICAE; OF/I//CONP; *RIC* IX, Arles 9b; A.D. 364-7.
LC/EE.

65. AE3; 1.55g; Valens; Arles; *Obv.* D N VALE[NS P F AVG]; *Rev.* S[ECVRITAS REIPV]BLICAE; OF/II//CON[ ]; *RIC* IX, Arles 9b; A.D. 364-7.
LX/CY.

66. AE3; 1.80g; Valens; Rome; *Obv.* D N VALENS P F AVG; *Rev.* SECVRITAS REIPVBLICAE; SM leaf R[ ]; *RIC* IX, Rome 24b; A.D. 364-78.
LB/VS.

67. AE3; 2.53g; Valens; *Obv.* D N VALEN[S P F AVG]; *Rev.* [SECVRITAS REIPVBLICAE]; OF/I//[ ]; A.D. 364-78.
LB/UM.

68. AE3; 2.37G; Gratian; *Obv.* D N GRATIA[NVS P F AVG]; *Rev.* SEC[VRITAS] REIPVBLICAE; SCON; *RIC* IX, Arles 19c; A.D. 375-8.
LB/SX.

69. AE3; 2.28g; Gratian; *Obv.* [D N GRA]TIA[NVS P F AVG]; *Rev.* SECVRITAS REIPVBLICAE; A.D. 367-78.
LC/FQ.

70. AE3; 0.77g; House of Valentinian I; Aquileia; *Rev.* [SECVRITAS REIPVBLICAE]; B//[ ]; A.D. 364-7.
LB/ABD.

71. AE3; 1.60g; House of Valentinian I; *Rev.* [SECVRITAS REIPVBLICAE]; OF/I//[ ]; A.D. 364-78.
LB/UX.

72. AE3; 1.07g; House of Valentinian I; *Rev.* [SECVRITAS REIPVBLICAE]; A.D. 364-78.
LM/CV.

73. AE3; 0.75g; House of Valentinian I; *Rev.* [SECVRITAS REIPVBLICAE]; A.D. 364-78.
LM/JA.

74. AE3; 1.46g; House of Valentinian I; *Rev.* [SECVRITAS REIPVBLICAE]; A.D. 364-78.
LC/DL.

75. AE3; 1.54g Gratian, Arles; *Obv.* [D N GRATIANVS AVGG AVG]; *Rev.* [GLORIA NOVI SAECVLI]; TCON; *RIC* IX, Arles 15; A.D. 367-75.
LM/CR.

76. AE3; 1.39g; Gratian; Arles; *Obv.* [D N GRATIANUS AVGG AVG]; *Rev.* [GLORIA NOVI SAEC]VLI; [ ]ON; *RIC* IX, Arles 15; A.D. 367-75.
LC/ED.

77. AE3; 0.83g; Gratian; *Obv.* [D N GRATIANVS AVGG AVG]; *Rev.* [GLORIA NOVI SAECVLI]; A.D. 367-75.
LC/BV.

A.D. 378-88 regular issues

78. AR siliqua; 1.77g; Magnus Maximus; Trier; *Obv.* D N MAG [MAXIM]VS P F AVG; *Rev.* VIRTVS ROMANORVM; TRPS; *RIC* X, Trier 84b/c; A.D. 383-8.
LC/DJ.

79. AE4; 0.87g; Magnus Maximus; Arles; *Obv.* D N MAG MAXIMVS P F [AVG]; *Rev.* [SPES ROMANORV]M; PCON; *RIC* X, Arles 29a; A.D. 383-8.
LC/AQ.

80. AE4; 0.39g; I Magnus Maximus/Flavius Victor; *Rev.* [SPES ROMAN]ORVM; A.D. 383-8.
LC/BJ.

81. AE4; 0.66g; House of Theodosius I; *Rev.* [VICTORIA AVGGG], two Victories; A.D. 383-87.
LM/AC.

A.D. 388-402 regular issues

82. AE4; 1.38g; Valentinian II; Lyons; *Obv.* D N VALENTINIANVS P F AVG; *Rev.* VICTORI[A AVG]GG; LVGP; *LRBC* II, 389; A.D. 388-92.
LM/EU.

83. AE4; 1.00g; Valentinian II; Arles; *Obv.* [D N VALENTIN]IANVS P F AVG; *Rev.* VICTOR[IA AVGGG]; PCON; *LRBC* II, Arles 562; A.D. 388-92.
LB/UP.

84. AE4; 0.59g; Valentinian II; Arles; *Obv.* [D N VAL]EN[TINI]AN[VS P F AVG]; *Rev.*[VICTOR]IA AVGGG; PCON; *LRBC* II, 562; A.D. 388-92.
LB/UF.

85. AE4; 0.58g; Theodosius I; Arles; *Obv.* [D N] THEO[DOSIVS P F AVG]; *Rev.* [VICTOR]IA AVGGG; [ ] ON; cf. *LRBC* II, 565; A.D. 388-95.
LM/AD.

86. AE4; 0.79g; Arcadius; Lyons; *Obv.* [D N A]RCAD[IVS P F AVG]; *Rev.* [VIC]TOR[IA AVGGG]; ; V//[ ]; *LRBC* II, 397; A.D. 395-402.
LX/NW.

87. AE4; 1.14g; Arcadius; Arles; *Obv.* D N ARCADIVS P F AVG; *Rev.* VICT[ORIA AVGGG]; TCON; *LRBC* II, 566/9; A.D. 388-95.
LM/AX.

88. AE4; 0.87g; Arcadius; Arles; *Obv.* [D N] ARC[ADIVS P F AVG]; *Rev.* VICTOR[IA AVGGG]; TCON; cf. *LRBC* II, 566; A.D. 388-402.
LM/CK.

89. AE4; 0.54g; Arcadius, *Obv.* D N A[RCADIVS P F AVG]; *Rev.* [VICTORIA AV]GGG; A.D. 388-402.
LM/AF.

90. AE4; 0.98g; Arcadius; *Obv.* DN ARCADIVS [P F AVG]; *Rev.* [VICTORI]A AVG[GG]; A.D. 388-402.
LM/KQ.

91. AE4; 0.96g; House of Theodosius I; *Rev.* [VICTOR]IA AVGGG; A.D. 388-402.
LM/BH.

92. AE4; 0.33g; House of Theodosius I; *Obv.* [ ]S P F AVG; *Rev.* [VICTORIA] AUGGG; A.D. 388-402.
LM/AY.

93. AE4; 0.53g; House of Theodosius I; *Obv.* [ ] P F AVG; *Rev.* [VICTORIA AVGGG]; A.D. 388-402.
LC/AN.

94. AE4; 0.73g; House of Theodosius I; *Rev.* VIC[TORIA AVGGG]; A.D. 388-402.
LM/CM.

95. AE4; 0.50g; House of Theodosius I; *Rev.* [VICTORIA AVGGG]; A.D. 388-402.
LC/AT.

96. AE4; 0.79g; House of Theodosius I; *Rev.* [VICTORIA AVGGG]; A.D. 388-402.
LM/LF.

97. AE4; 0.55g; Arcadius; Rome; *Obv.* [D N ARC]ADI[VS P F AVG]; *Rev.* [SAL]VS [REIPVBLICAE]; R[ ]; *LRBC* II, 798; A.D. 388-92.
LC/DO.

98. AE4; 0.88g; Arcadius; Aquileia; *Obv.* D N ARCADI[VS P F AVG]; *Rev.* SALVS REIPVBLICAE; AQS; cf. *LRBC* II, 1107. A.D. 388-402.
LM/AZ.

99. AE4; 0.73g; Honorius; Rome; *Obv.* [D] N ONO[RIVS P F AVG]; *Rev.* [SALVS REI]PVBLI[CAE]; cf. *LRBC* II, 806; A.D. 394-402.
LM/KN.

100. AE4; 1.07g; House of Theodosius I; Aquileia; *Rev.* [SALVS REIPVBLICAE]; AQ[ ]; cf. *LRBC* II, 1105; A.D. 388-402.
LC/AU.

101. AE4; 0.45g; House of Theodosius I; *Obv.* [ ]S P F AVG; *Rev.* SAL[VS REIPUBLICAE]; A.D. 388-402.
LM/KR.

102. AE4; 0.62g; House of Theodosius I; *Rev.* [SALVS REIPVBLICAE]; A.D. 388-402.
LM/LX.

103. AE4; 0.16g, fragment; House of Theodosius I; *Rev.* [SALVS REIPVBLICAE]; A.D. 388-402.
LM/AK.

104. AE4; 0.87g; House of Theodosius I; *Rev.* [SALVS REIPVBLICAE]; A.D. 388-402.
LB/SR.

105. AE4; 0.30g; House of Theodosius I; *Rev.* [SALVS REIPVBLICAE]; A.D. 388-402.
LX/MV.

106. AE4; 0.58g; House of Theodosius I; *Rev.* Victory; A.D. 388-402.
LM/AH.

107. AE4; 0.71g; House of Theodosius I; *Rev.* Victory; A.D. 388-402.
LM/LW.

Illegible, probably generally fourth century A.D.

108. AE3; 1.27g.
LX/NA.

109. AE3; 0.48g.
LX/NO.

110. AE3; 0.95g.
LM/LT

111. AE4; 0.19g.
LC/FB.

112. AE4; 0.20g.
LB/XD.

113. AE4; 1.69g.
LM/LD.

114. AE4; 0.28g.
LM/KO.

115. AE4; 0.23g.
LM/DV.

116. AE4; 0.40g.
LM/KU.

117. AE4; 0.25g.
LM/BB.

118. AE4; 0.18g.
LM/AP.

119. AE4; fragmentary.
LM/ED.

120. AE4; fragmentary.
LM/BC.

121. AE fragment with incised decoration, probably not a coin.
LM/KL.

Note: Unless otherwise indicated references to the coins in the above list are as follows:

Burnett = Burnett 1985
Cunetio = Besly and Bland 1983
LRBC = Late Roman Bronze Coinage
RIC = Roman Imperial Coinage.

The samian ware and mortaria were included in this quantification since such an exercise would be misleading without all the pottery, but the samian was to have been the subject of a separate report. Regrettably, it has been lost in the interim and only a summary listing of form occurrences can now be made. In order to attempt to examine spatial trends in the pottery and to obtain groups large enough for quantification the excavator's layers were grouped together by the University of Bradford post-excavation unit. This was done considering both the contents of the deposits and what information could be gained on stratigraphy from the site notebooks.

It has not proved possible, or necessarily useful, generally to relate layers to the structural sequence proposed for the buildings. For example, the buildings on Site LC (the Eastern Range) would appear from the notebooks to proceed through three phases but the ceramic material from these would all appear to be of a very similar date and the phasing seems less than clear. Therefore Site LC has been divided by area rather than phase.

Since the groupings into which the pottery has been divided are not covered by the structural report a table of them has been included in Appendix 2. The areas into which the site was divided are shown on Figure 4. There are some 37 groups in all comprising 8,681 sherds from stratified and semi-stratified contexts. Material from some small contexts which could not be grouped has been excluded. Unstratified pottery has only been mentioned if forms are unrepresented in the stratified material or if the pieces are of intrinsic interest. Appendix 3 tabulates the form/fabric occurrences in the 37 groups and Appendix 4 tabulates fabric proportions from them. The coding of the pottery was undertaken as part of the author's doctoral research, supported by the SERC, in 1983. The final production of this report was undertaken in 1993 utilising the coding prepared in 1983 and notes made then.

THE ROMAN POTTERY (Figs. 45-54)

by Jeremy Evans
with contributions by K F Hartley

Introduction and Methods

All the stratified pottery from Beadlam has been examined and grouped visually into fabric types, generally following the principles laid down by Peacock (Peacock 1977). Each of the fabric types is described in Appendix 1. The fabrics from each layer were quantified by sherd counts, sherd weight, minimum number of rims, minimum number of vessels and percentage of rim. Some of the fabric types almost certainly include fabrics from more than one production centre which it has proved impossible to separate and some groups have probably not been isolated entirely successfully. The latter is probably true of Norton fabrics and Holme-on-Spalding Moor products, some of which have probably been placed with the sandy greyware fabrics, R10 and R11.

Dating

The stratigraphically earliest feature in the sequence excavated at Beadlam is the ditch beneath Building 1 which was sectioned both to the north and south of the structure. However, as the aim of the excavations was simply to expose buildings for potential consolidation and display, most of the site was not excavated below the upper deposits and, therefore, the range of stratified material is limited.

The best indications of the date of the primary occupation of the site probably come from the samian list and the mortaria. Samian rim sherd forms originally noted amongst the stratified groups were as follows;

Dr 30/37, Dr 31 (x 11), Dr 32, Dr 33 (x 2), Dr 37, Dr 38, Dr 45, Dish

This list lacks any first-early second-century A.D. forms and does not suggest any substantial occupation before the later second century. The mortaria provide a similar picture with no clearly first-century vessels, but nine attributable to the second century, although the earliest of these are prob-

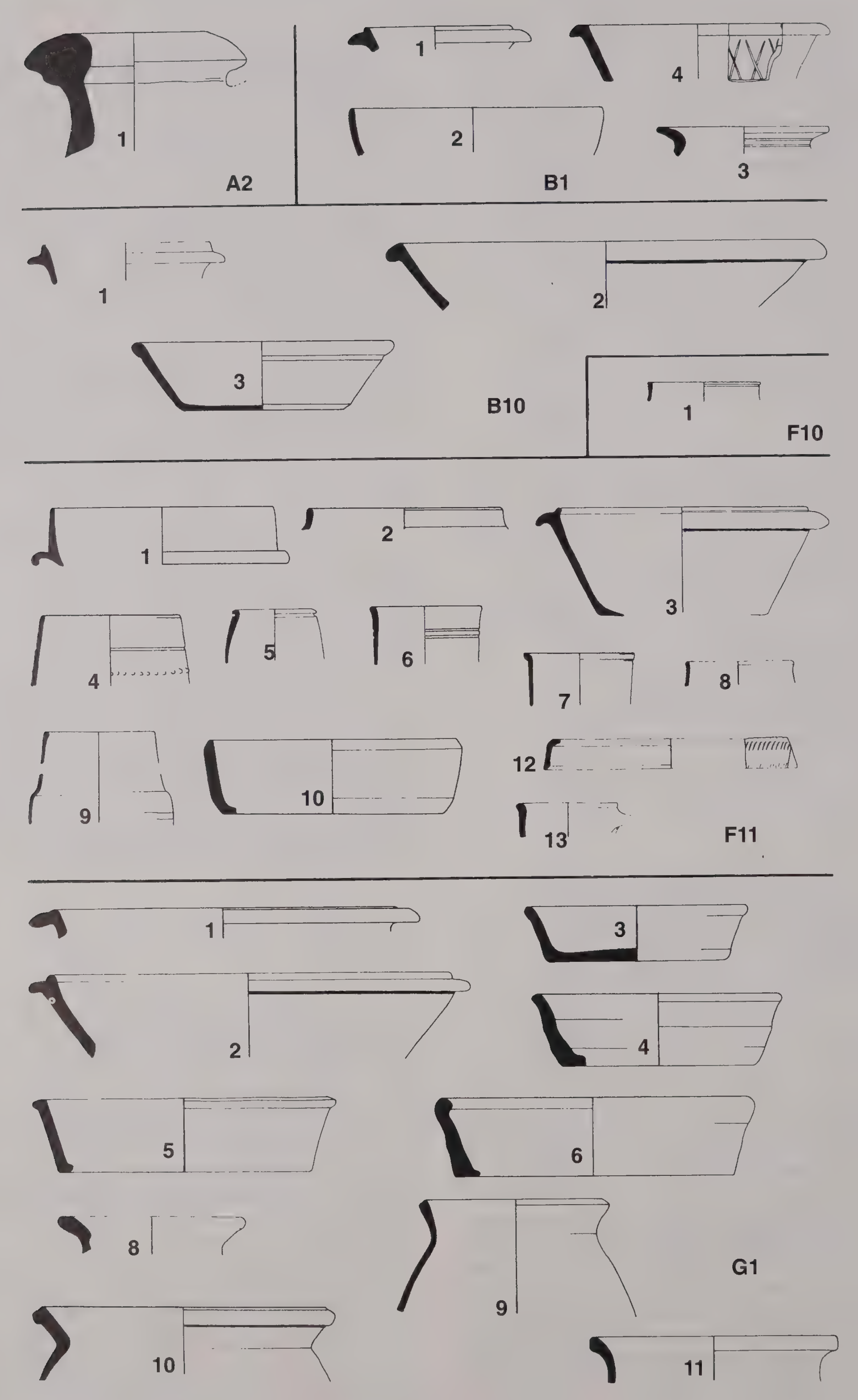


Fig. 45 Coarse pottery; fabrics A2, B1, B10, F10, F11 and G1. Scale 1:4.

ably Hadrianic rather than later (K.F. Hartley pers. comm.). Another feature of the pre-fourth-century mortaria is that whereas there are nine vessels attributable to the second century there are only three attributable to the third century.

The material from the ditch sectioned north and south of Building 1 contained, principally, a hand-made vesicular fabric (Figs. 50-51, P1), originally calcareously tempered, in Iron Age type forms well paralleled at Rudston (Rigby 1980), together with various burnished greywares, and some acute latticed decorated sherds of which some come from the primary silting of the ditch. Despite the Iron Age type forms the group would appear to date from the later second century, including sherds of 'Rhenish' ware (fabric F10) and a Hadrianic mortarium (Fig. 49, Form M4.1).

There seem to be no third-century groups of material and the next group in the sequence is a small one from a metalled surface north of Building 1 and probably associated with the construction of the range in the early fourth century. This group ('North of Building 1, C') has all the standard East Yorkshire fabrics, Crambeck greyware, Throlam and Norton greywares and other sandy greywares together with calcite gritted ware (Figs. 45-47, G2) and the sandy calcite gritted ware (Fig. 48, G4). A larger group of much the same period, although probably running up to around the middle of the fourth century, comes from the 'Courtyard south of Building 1; under yard surface (5)' group. It contains some residual vesicular Iron Age type fabric but mainly comprises Crambeck greyware (Fig. 52, R9), sandy greyware (Fig. 53, R11), Knapton rimmed calcite gritted ware jars (Figs. 46-47, G1), some sandy calcite gritted ware (Fig. 48, G4), gritted ware (Fig. 49, G22) lid-seated jars, a third-century mortarium (Fig. 50, M13.1) and a Crambeck parchment ware (Fig. 54, W10.9) mortarium in Corder type 6.

Another group which appears to open before the late fourth century is the accumulation on the early metalled surface north of Building 1 (group - 'North of Building 1, B') which appears to stretch throughout the fourth century.

The final group which also seems to open before the later fourth century is that from deposits which seem to be associated with the occupation of the poorly known Building 9 (group - 'DXII-DXIII Building 9, occupation'). These mainly date to around the middle of the fourth century, ending just after the middle of the century, and even the rubble deposits over this range (group - 'DXII-DXIII, Building 9, rubble'), although containing later fourth-century material, contain a high proportion of earlier fourth-century forms.

FABRIC SUPPLY

Amphorae (class A) (Fig. 45)

Amphorae are not common on the site, as might be expected by its date range and nature. The commonest fabric by far is that of the Baetican Dressel 20 (fabrics A2 and possibly A1), as is usual on all northern English sites, followed by a few sherds of Gallic vessels (fabric A10) and two sherds of Campanian fabric (fabric A20). One of these was published by Rigby (1988) as being from a Dressel 1 vessel; however, further research has suggested (Arthur and Williams 1992, note 6) that it is more likely to be from an Arthur 82.

Black Burnished wares (class B) (Fig. 45)

One of the striking features of the Beadlam group, as of other East Yorkshire groups, is the marked lack of both BB1 and BB2. In all there are ten probable pieces of BB2 and nineteen of BB1. These figures not only emphasise that both fabrics played no significant part in pottery supply to the site but also show that even in East Yorkshire BB1 might be more common than BB2. This is no doubt due to its longer period of availability here, as is indicated by the forms present.

Colour-coated wares (Class F) (Fig. 45)

Only two colour-coated wares are represented on the site, 'Rhenish' ware (F10) and Nene Valley colour-coated ware (F11). The Nene Valley ware is predominantly fourth century, as might be expected, with three later second-third-century bag beakers to eight of the later vertical-necked form. As usual for the north, the Nene Valley material preceding the later fourth century is confined to beakers and 'Castor boxes', after which there is a marked functional diversification with the addition of dishes, jars, flagons, and bowls. Beakers cease to be the most important component of the assemblage. Table 2 shows the functional breakdown of the Nene Valley material from the late fourth-century groups.

Table 2

Functional analysis of Nene Valley material from all the late fourth-century groups (by minimum numbers of rims per context)

Jars	Bowls	Dishes	Beakers	Flagons	Lids	n
5%	41%	14%	36%	0	5%	22

No Nene Valley material comes from the early ditch, but from the various earlier fourth-century groups it seems to be present at a level of around 4% by sherd count. This declines to 2.4% by sherd number for all the late fourth-century groups (n = 7,427 sherds).

Gritted wares (class G) (Figs. 45-46)

The principal fabric in the fourth-century deposits is East Yorkshire calcite gritted ware (Fabric G1). The source for this in the third century would appear to be Knapton (Corder and Kirk 1932, 96-9) and this may have continued to be its main source in the earlier fourth century (Evans 1985), although in the later fourth century it seems clear that this was replaced by a different source (Evans 1985), producing a visually indistinguishable fabric. This fabric represents 8.5% by count from the very small group of early fourth-century date (group - 'North of Building 1, C') and the 'Courtyard south of Building 1, under yard surface (5)' group which contains material of later third- to mid-fourth-century date, 51.8% from Building 9 occupation of mid-fourth-century date and 55.3% from all the later fourth-century groups.

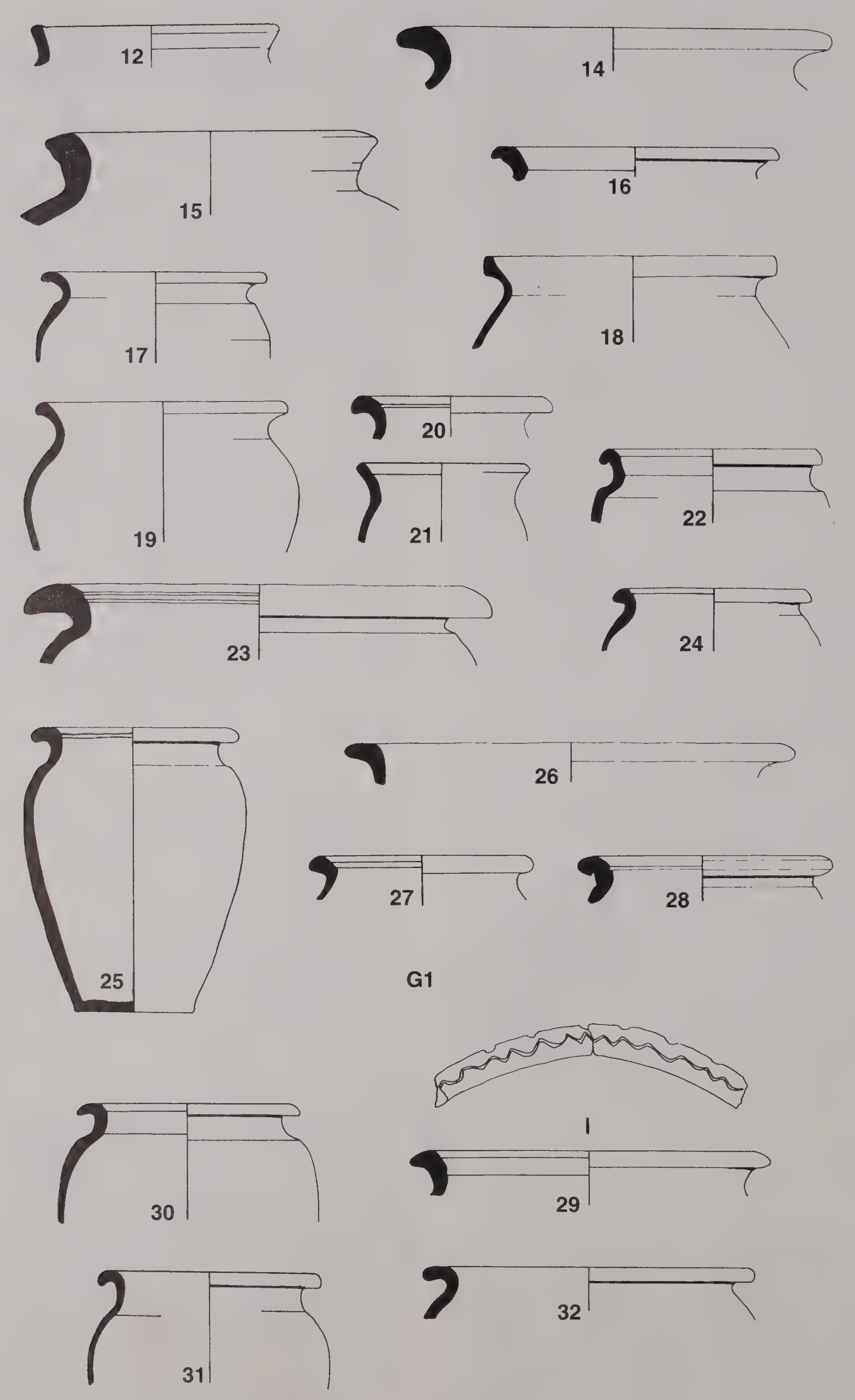


Fig. 46 Coarse pottery; fabric G1. Scale 1:4.

The data from group 'North of Building 1, C' is probably unreliable, but the trend of a gently rising proportion of the assemblage being taken up by the fabric is probably a general trend in East Yorkshire. The form composition of the material under the yard surface south of Building 1 is predominantly of third-century Knapton type jars, with a proto-Huntcliff type jar and a couple of Huntcliff types, which might be intrusive. The group north of Building 1 contains a mixture of residual Knapton types, S-bend early fourth-century types, proto-Huntcliff mid-fourth-century types and Huntcliff types. In contrast the group from 'DXII-DXIII, Building 9, occupation' is a fairly closed mid-fourth-century group with only two S-bend types (G01.19) and a single Huntcliff type (G01.25) but a series of proto-Huntcliff types (G01.31-35). These types had certainly emerged from the S-bend types by A.D. 345-6 when the Womersley hoard was deposited in one. The illustration of this vessel (Pirie 1971) is of a proto-Huntcliff, not a Huntcliff type (*contra* Sumpter 1990, 145). The date of the emergence of the Huntcliff type itself, and of the later fourth-century Crambeck types, now moves into the mid-A.D. 350's as a result of the evidence from Birdoswald (Hird forthcoming). This is also supported by the evidence of the Dalton Parlours coin list (Sumpter 1990) and makes that from Skeldergate more comprehensible (MacGregor 1978).

Table 3

Functional analysis of vessels in Fabric G1 from 'Building 9, occupation' and from all the later fourth-century groups (Figs. 45-46)

Jars (%)	Bowls (%)	Dishes (%)	Beakers (%)	Flagons (%)	Lids (%)	Mortaria (%)	n
Building 9, occupation							
73.0	7.0	13.0	0	0	7.0	0	15
All late fourth-century groups							
93.8	0.7	4.7	0	0.3	0.5	0	404

This table demonstrates that the vast bulk of vessels in fabric G1 were jars, and also demonstrates how the range of functional types narrows to an almost exclusive concentration on jars in the later fourth century. This seems to be part of a wider pattern (Evans 1985) of functional specialization in this fabric in the later fourth century.

An interesting fabric not previously noted in the region, is fabric G2, a wheelmade calcite gritted ware (or at least one fully made on a slow-wheel). This fabric is presumably of East Yorkshire origin, since the use of calcite tempering (as opposed to shell, limestone and chalk) appears generally restricted to East Yorkshire in the Roman period and a similar fabric occurs at Brough-on-Humber. This is found at a level of 0.5% in the mid-fourth-century group from 'DXII-DXIII, Building 9, occupation', 2.4% in the mixed group 'North of Building 1, B' and 0.9% in all the later fourth century groups, suggesting its emergence, perhaps, in the A.D. 340's. The forms represented are almost exclusively jars, with nineteen of these and a single lid amongst the stratified groups. The rim forms are diverse, including one which appears to be an imitation of a late Southern Shell Tempered ware jar (Fig. 48, G11.1), a surprising choice if deliberate.

Fabric G4 (Fig. 48) represents a further calcite gritted ware of importance in the assemblage. This is a sandy calcite gritted fabric which seems to be another restricted East Yorkshire type. The fabric is present at 1.5% in the group 'Courtyard south of Building 1, under yard surface(5)', at 2.1% in the 'North of Building 1, C' group and 2.6% in the 'DXII-DXIII, Building 9, occupation' group and rising to 6.1% in all the late fourth-century groups. Similarly vessels in forms which appear to be of this fabric are present at Rudston in the early fourth-century well deposit, layer 278 (Rigby 1980 (part of fabric group 2e)). The fabric is mainly in jars of Huntcliff type rim form with two applied loop handles, with hand burnished and grooved wavy line decoration. Some 26 jars occur in the groups, but the only other function represented is a single dish. The fabric is found on several sites in the Vale of Pickering, especially Rudston, where it is far more common than at Beadlam; however since this form of vessel was obviously used for drawing water at Rudston this effect could be misleading. This fabric is not present at Brough-on-Humber.

Similar to fabric G4, and possibly related to it, is a black sandy handmade fabric with occasional calcite inclusions, fabric G5 (Fig. 48), with considerable use of rather sloppily executed hand-burnishing as decoration often employing sloping lines or an acute lattice. The fabric is found in late fourth-century groups in a number of forms and is known elsewhere in the north, nearly always in the form of a small bead-rimmed shouldered jar (Hull 1932, type 24). The diversity of forms in this fabric at Beadlam and the use of calcite tempering rather suggest a northern East Yorkshire origin for the type. The fabric is found at Huntcliff both in the small jar and in Huntcliff type jar forms (Evans 1985) but further north only in the small jar form which is distributed as far as Birdoswald (Birley 1930, type 21) where it was regarded as an exclusively late fourth-century type.

The fabric appears in the group 'Courtyard south of Building 1, under yard surface (5)' at 0.5%, where it could be intrusive, and also in the 'DXII-DXIII, Building 9, occupation' group at 0.5%, suggesting it emerged around the middle of the fourth century, and it represents 3.5% of the late fourth-century groups. As noted above, the forms represented are more diverse than on Hadrian's Wall, but all are jars.

There is very little Dales ware (Fig. 48, fabric G10) from Beadlam (like Rudston, Malton and Langton (Rigby 1980, 92)) with less than five pieces from the entire site. This contrasts with Brough-on-Humber (Wacher 1969), or even York (Perrin 1981, fig. 23), although the lid-seated/Dales tradition was influential enough to have apparently stimulated copies in the wheel-made/finished calcite gritted ware (Fig. 47, fabric G2), which seems to have specialised in copying forms from other fabrics. It is clear that fabric G10 was of minimal significance to pottery supply in East Yorkshire, a similar situation to the other outliers of its distribution at the hinterland forts and on Hadrian's Wall.

One very interesting sherd from the site was regrettably unstratified. It is the rim of a rilled jar in fabric G11 (Fig. 48), Southern Shell-Tempered ware (Sanders 1973) in a form which Plouviez (Plouviez 1976) dates to the mid-late fourth

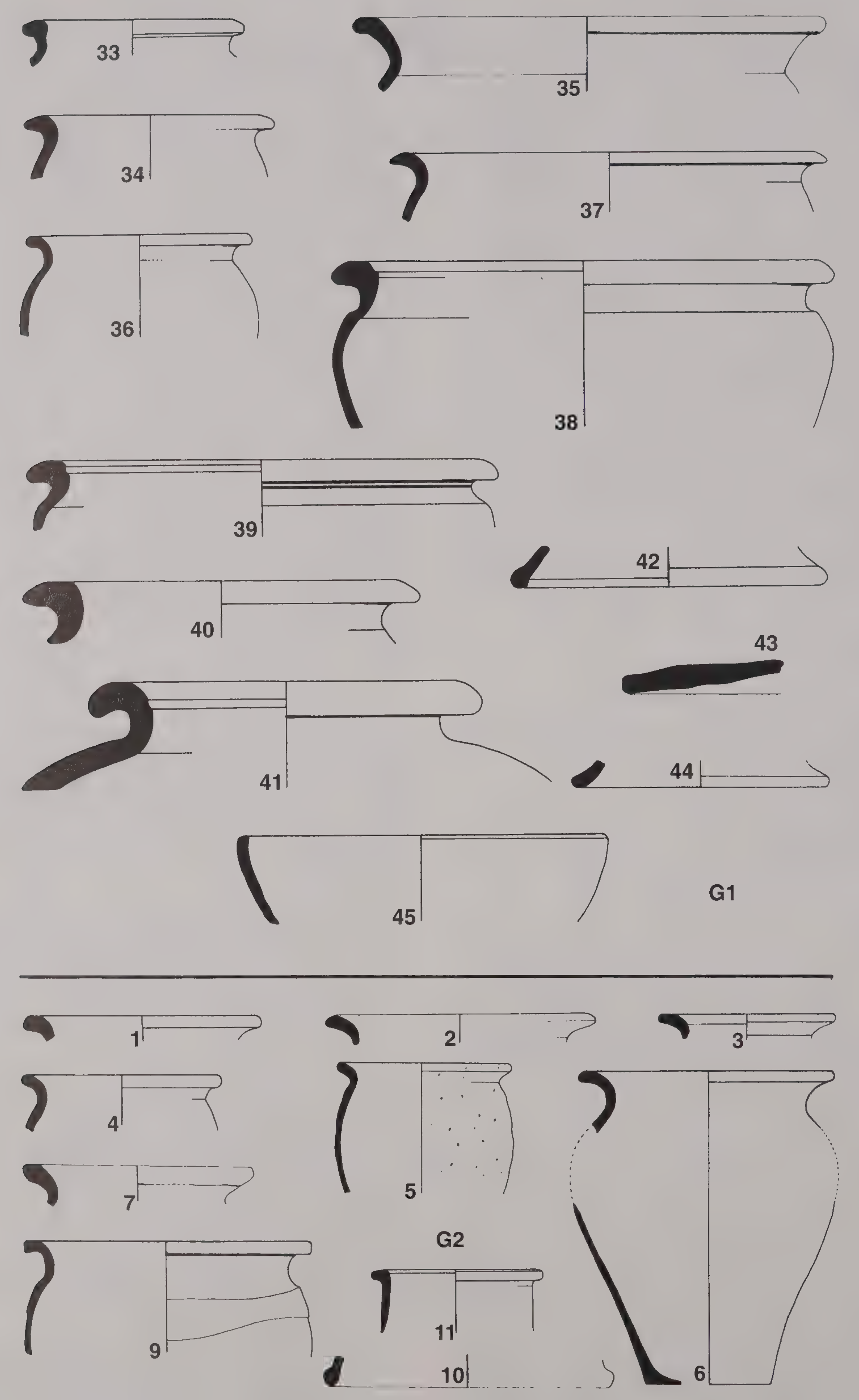


Fig. 47 Coarse pottery; fabrics G1 and G2. Scale 1:4.

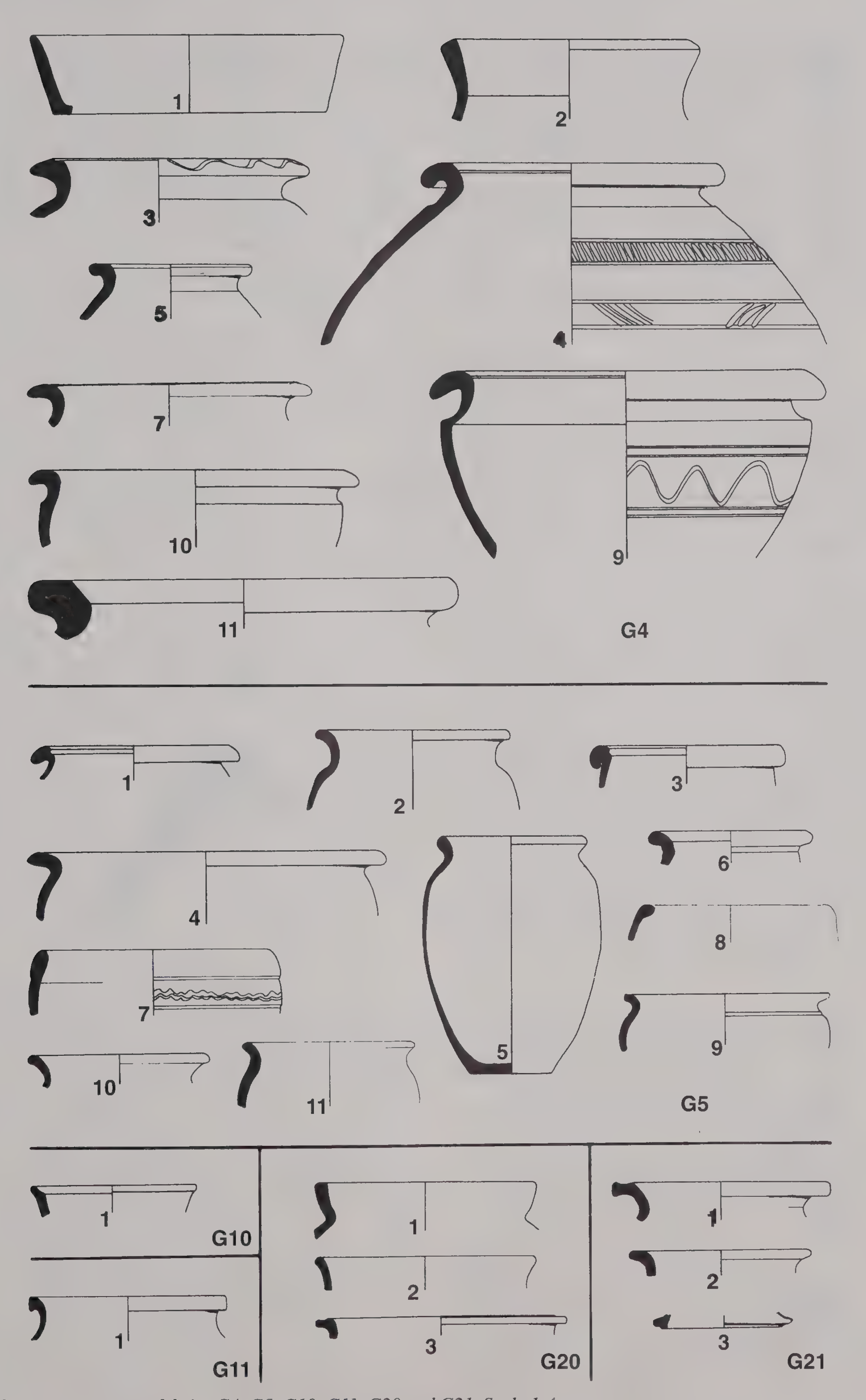


Fig. 48 Coarse pottery; fabrics G4, G5, G10, G11, G20 and G21. Scale 1:4.

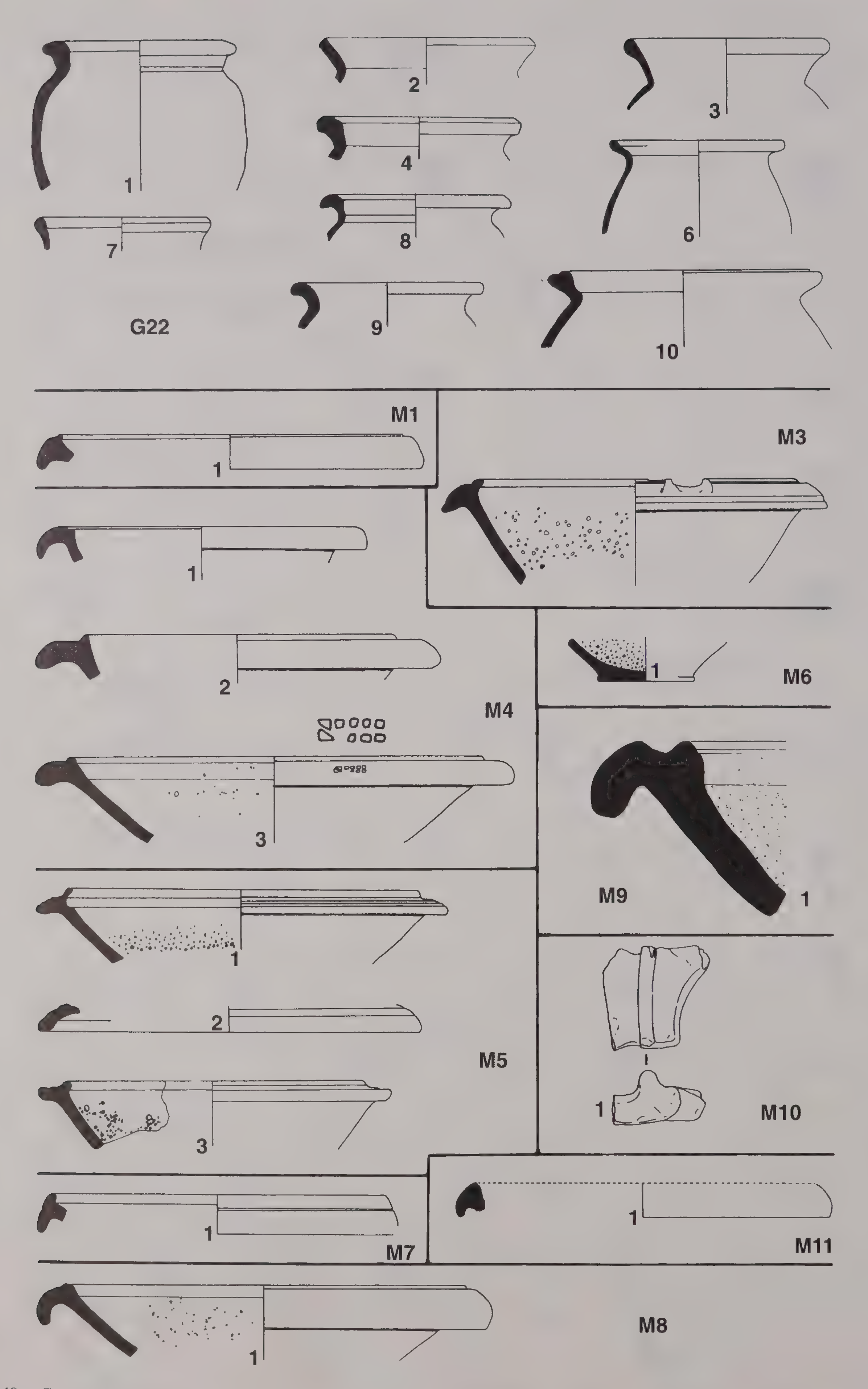


Fig. 49 Coarse pottery; fabrics G22, M1 and M3-M11. Scale 1:4.

century. This form has not previously been published in northern England, although several examples are now known. The fabric is present in the late fourth-century ditch fills at Piercebridge (personal examination), there are examples from Catterick (Bell and Evans in prep.), and there are several vessels in late fourth-century or residual contexts from Binchester (Evans in prep.). Given the wide distribution of these vessels and their low numbers (one in over 8,000 sherds at Beadlam) they are not very likely to have been traded on their own and considering their likely origin at Harrold, Bedfordshire, it would seem probable that they arrived together with the Nene Valley finewares.

Three gritted ware fabrics have been identified on the site. Fabric G20 (Fig. 48), a handmade fabric, is present in very small quantities and only occurs in the late fourth-century deposits (at 0.2%), although it is probably residual by this period. Fabric G21 (Fig. 48) is a hard wheelmade gritted ware found at 2.5% of the group 'Courtyard south of Building 1, under yard surface (5)', but only 0.3% in the late fourth-century groups, which may well be related to the third gritted ware fabric G22. This group is very similar to the gritted ware kiln material from Cold Cam (Hayes 1963). Beadlam would seem to be the first site upon which this fabric has been found and there is also a possible Cold Cam mortarium base from the excavations (Fig. 49, fabric M6). The presence of Cold Cam material would be unsurprising since Beadlam is only about 8 miles from the kiln. The dating evidence from Beadlam is important, however, since there was little dating evidence found on the kiln site. Two sherds of the gritted ware come from the early ditch deposit, but these are probably intrusive, but this fabric is consistently found in the early fourth-century deposits at about 3% of the assemblage and it occurs in the late fourth-century groups at 1.5%. The occurrence of the gritted ware in many of the late deposits suggests that it is unlikely to be residual and might suggest that Cold Cam, like Swanpool, was making lid-seated jars in the latter part of the fourth century. All 32 of the rim sherds in this fabric from the stratified groups are from jars, mostly lid-seated jars.

Mortaria (class M) (Fig. 49)

The vast bulk of mortaria from the site are in Crambeck parchment ware (as might be expected given the date distribution of the deposits); these are discussed below under fabric W10. There is a single stamped mortarium from the site, from finds tray LB/WC, an ungrouped deposit north of Building 1 (Form M4.3). Mrs K.F. Hartley noted 'no other example of this stamp is known, but the fabric points to manufacture in northern England, and a date in the mid-second century is likely'.

The second-century mortaria seem to have two principle local sources, one is Malton but the other is uncertain (fabric M4), although the vessels are comparable with those produced in the Catterick area in terms of fabric and trituration grits. The other probable supplier in the second century would appear to have been the Rhineland. As noted above there are more second-century than third-century vessels, these latter consisting of one Mancetter, one fairly local and one Oxfordshire vessel. It is interesting that of these few vessels one is from Oxfordshire, whereas none of the much more extensive late fourth-century collection is; a similar pattern was noted at Catterick where Oxfordshire vessels were exclusively third century (Hartley and Evans in prep.), and this might possibly suggest that Oxfordshire products were being more successfully marketed in the north at this time.

The fourth-century collection is dominated by Crambeck products, as might be expected, the only other source certainly represented being Swanpool (M5) of which there are three vessels. It is possible that some of the lid-seated jars in gritted wares (Figs. 48-49, G20-G22) are Swanpool products also, although more local sources, eg. Cold Cam, are probable for most of them.

Oxidised wares (class O) (Fig. 50)

There are a number of minor oxidised fabrics occurring on the site, most of them probably of second-century date, the exception being fabric O30, Crambeck redware. Fabrics O1 and O3 occur as body sherds in the pre-villa ditch group and the only form in O1 is a cornice rimmed bag beaker, suggesting a second-century date. Similarly the dish in fabric O10 is unlikely to date after this and so are the costrel body sherds in fabric O14.

Crambeck redware (fabric O30) is present in small quantities in the assemblage, with some 4.6% in the group 'Courtyard south of Building 1, under yard surface (5)' and 0.5% overall in the late fourth-century groups. Only three forms are represented, the typical Dr 38 copy (O30.2), Crambeck type 5, with eleven examples, a flanged bowl (O30.3), with two examples, three other bowl rim fragments, and a sub-cornice rimmed beaker (if the fabric has been correctly identified) from the early group 'Courtyard south of Building 1, under yard surface (5)'. As usual, the emphasis is on tableware bowls with sixteen out of seventeen rim sherds being from these. Decoration is restricted to burnishing and none of the vessels exhibits white painted decoration which is sometimes used on the fabric in the later fourth century.

Iron Age Tradition Fabrics (class P)

(Figs. 50-51)

Two fabrics in this class are represented in the groups, of which P1 is massively the commonest. The only contemporary deposit for these fabrics are the ditch sections north and south of Building 1 (group 'Building 1 area; Ditch'). Here P1 represents 64.6% of the group by count, as opposed to 0.9% residual in the late fourth-century groups, and P2 represents 11% by count in the ditch group. The functions represented by vessels in P1 are twenty jars and a single lid, and the forms are those typical in East Yorkshire in the later Iron Age and early Roman period (cf. Evans 1995).

Reduced wares (class R) (Figs. 51-52)

The supply of Holme-on-Spalding Moor (R7) ware to the site is interesting. The fabric is absent from the group 'Courtyard south of Building 1, under yard surface (5)' but appears at 14.9% in the smaller and unreliable group 'North of Building 1, C' and a more realistic 4.1% in the group 'North of Build-

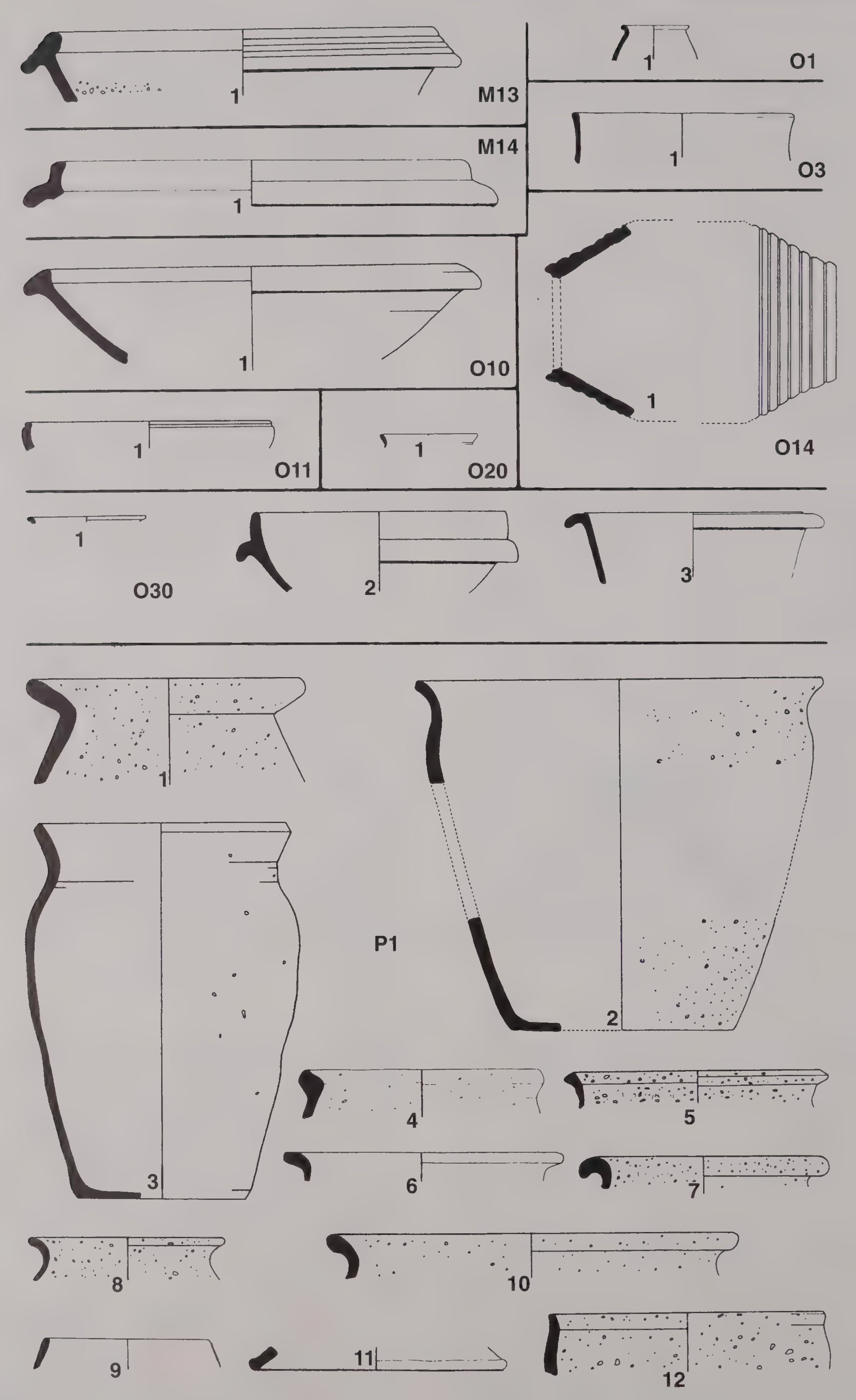


Fig. 50 Coarse pottery; fabrics M13, M14, O1, O3, O10, O11, O14, O20, O30 and P01. Scale 1:4.

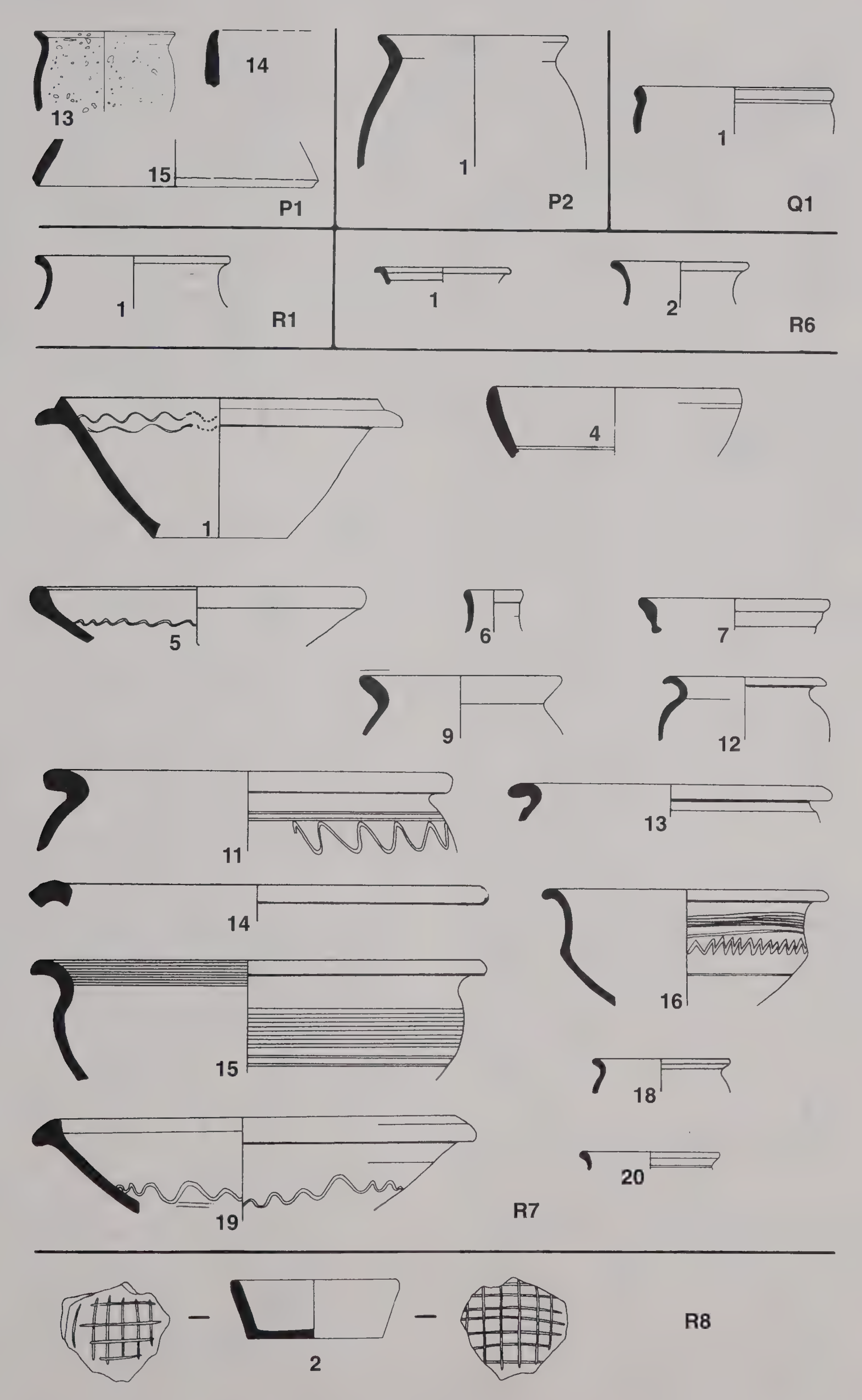


Fig. 51 Coarse pottery; fabrics P1, P2, Q1, R1, R6, R7 and R8. Scale 1:4.

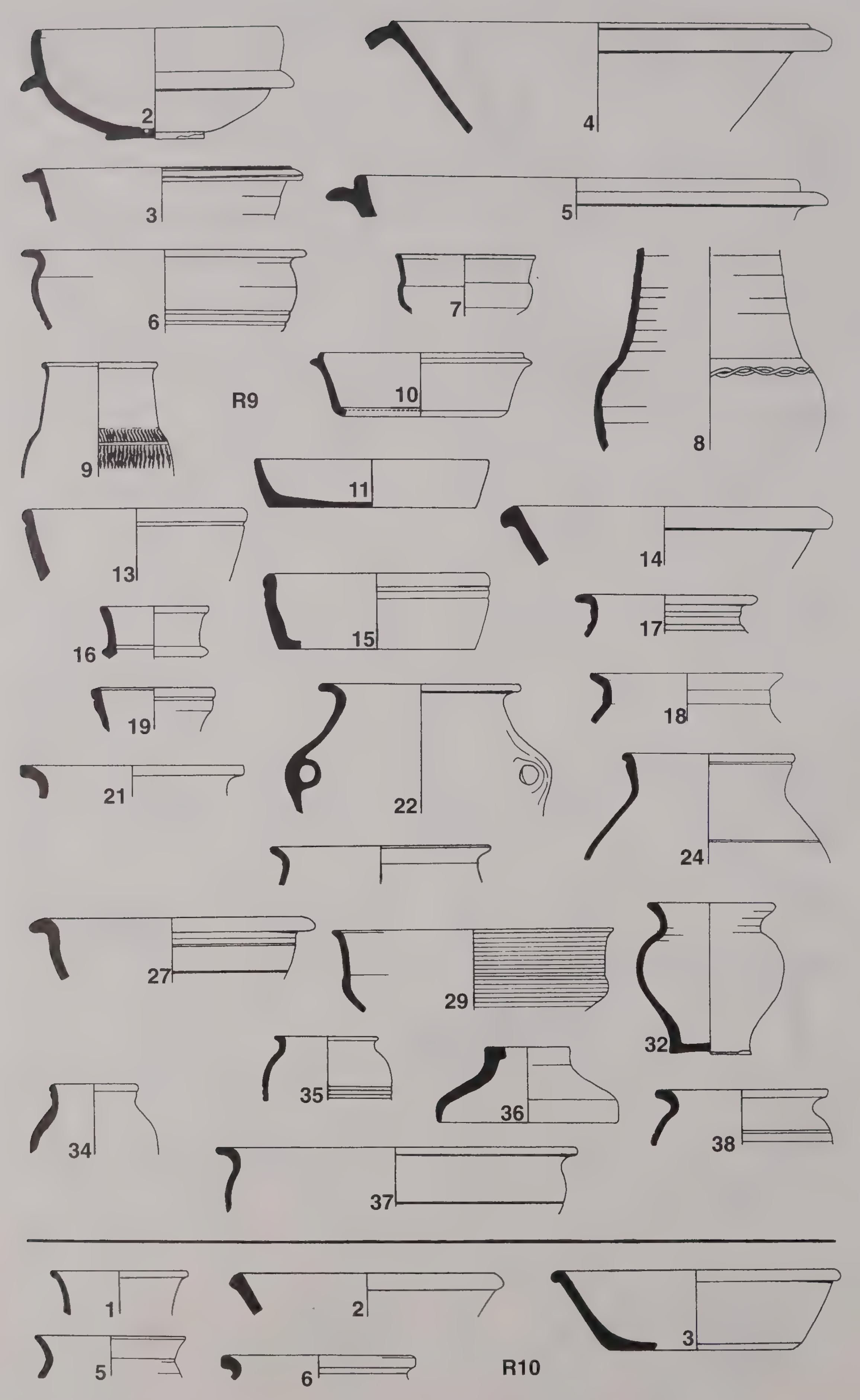


Fig. 52 Coarse pottery; fabrics R9 and R10. Scale 1:4.

ing 1, B' in the same area. The mid-fourth-century group 'DXII-DXIII, Building 9, occupation' contains 0.5% of Holme wares and all the late fourth-century groups produce 1.3%. The presence of consistent quantities of Holme-on-Spalding Moor material in the late Roman deposits at Beadlam seems rather too considerable to be accounted for by residuality and it would seem possible that some of this material was still in use in the late fourth century and might still have been in production in the earlier part of this period. Since Throlam type fabrics are rarely found from York and military sites further north, there may be distributional reasons to explain their absence from most of the signal stations; Hull illustrates a typical Throlam type wide-mouthed jar from Scarborough (Hull 1932, type 16). The functional breakdown of all the Holme vessels from earlier fourth-century deposits is three jars, two bowls and four dishes.

Table 4

Functional analysis of Holme ware vessels from all the late fourth-century groups.

Jars	Bowls	Dishes	Beakers	Flagons	Lids	n
38%	38%	12%	3%	12%	0	35

These figures point to an emphasis on tablewares amongst the Holme products, and many of the jars with their fairly narrow necks and handles may also have been liquid containers.

Crambeck greywares (Fabric R9) are the second most common fabric on the site. They appear at 9.1% in the group 'Courtyard south of Building 1, under yard surface (5)' and 12.8% in the early fourth-century group 'North of Building 1, C' rising to 14.4% in group 'North of Building 1, B' and 23.6% in the mid-fourth-century 'DXII-DXIII, Building 9, occupation' and falling to 17.5% of all the late fourth-century groups. The pattern of a general rise in the quantities of this fabric through the first half of the century seems general in north-east England (Evans 1989) and the slight decline relative to calcite gritted wares in the later fourth century also seems usual. As Table 5 shows the functional composition of the Crambeck greyware assemblage is preponderantly of tablewares, and the decline of tablewares in northern assemblages relative to jars in the later fourth century, no doubt explains the slight fall in Crambeck greywares in the later fourth century.

Table 5

Functional analysis of Crambeck greywares (Fig. 52, R9) from all the late fourth-century groups.

Jars	Bowls	Dishes	Beakers	Flagons	Lids	n
19%	43%	23%	1%	2%	1%	224

The occurrence of decorative motifs on Crambeck greyware vessels from the site are shown in Evans (1989) table 2. Most sherds bear some decoration/surface treatment, usually burnished, as might be expected with tablewares, where burnishing of the interiors of dishes and bowls no doubt facilitated cleaning.

Fabric group R10 is a minor one which is probably mainly second-third century, comprising around 3% of the 'Building 1 area, Ditch' deposit. Fabric R11 is a mixed group, from more than one source, which includes a second-century fabric(s) amounting to around 10% of the 'Building 1 area, Ditch' deposit, but also some late Roman greywares so that it still accounts for 3% of the late fourth-century groups. Most of the late Roman material in this group would seem to be of Holme origin as the range of forms suggest, but the fabric is a sandier variant not clearly attributable to that source by fabric alone. The group also includes a vessel which would appear to be from Messingham (R11.7).

There are a few reduced ware sherds from the site which appear to be wasters/seconds (Fabric R14). The only form represented is the beaded and flanged bowl (R14.1 (not illustrated)) of which there is one overfired vessel from the group 'Courtyard south of Building 1, under yard surface (5)' and a seriously blistered vessel from an unstratified deposit.

Norton greywares (fabric R15) are not common in the collection, which is unsurprising since there are no third-century groups. Surprisingly, none are recorded in the material 'Courtyard south of Building 1, under yard surface (5)', which contains a fair component of third-century material, but they are present at around 4% in the small early fourth-century group 'North of Building 1, C' and 0.4% in the later fourth-century groups. The functions represented are three jars, two dishes and a flagon.

Fabric R17 is represented by two jars of Gillam type 151, which Bidwell (1985, 177-8) has persuasively suggested are from Mucking, and presumably arrived in the same east coast trade as BB2, in the early to mid-third century.

Whitewares (class W) (Figs. 53-54)

There are a few sherds of early whitewares, one or two of which (Fabric W2) may be Verulamium region ware, but the principle whiteware, W10, is Crambeck parchment ware. This comprises around 3% of the group 'North of Building 1, B' and the 'DXii-DXIII, Building 9, occupation' group and 2% of all the late fourth-century groups. All Crambeck parchment wares were mortaria before the later fourth century, at which point a range of dishes and bowls was added.

Table 6

Functional analysis of Crambeck parchment ware

Jars	Bowls	Dishes	Mortaria	n
2%	23%	19%	57%	53

Evans (1989) table 3, shows the occurrence of decorative motifs on parchment ware from the late fourth-century groups on the site.

Residual material

The distribution of archaeologically residual material within the late fourth-century deposits has been examined, both to attempt to define areas with more intensive early occupation

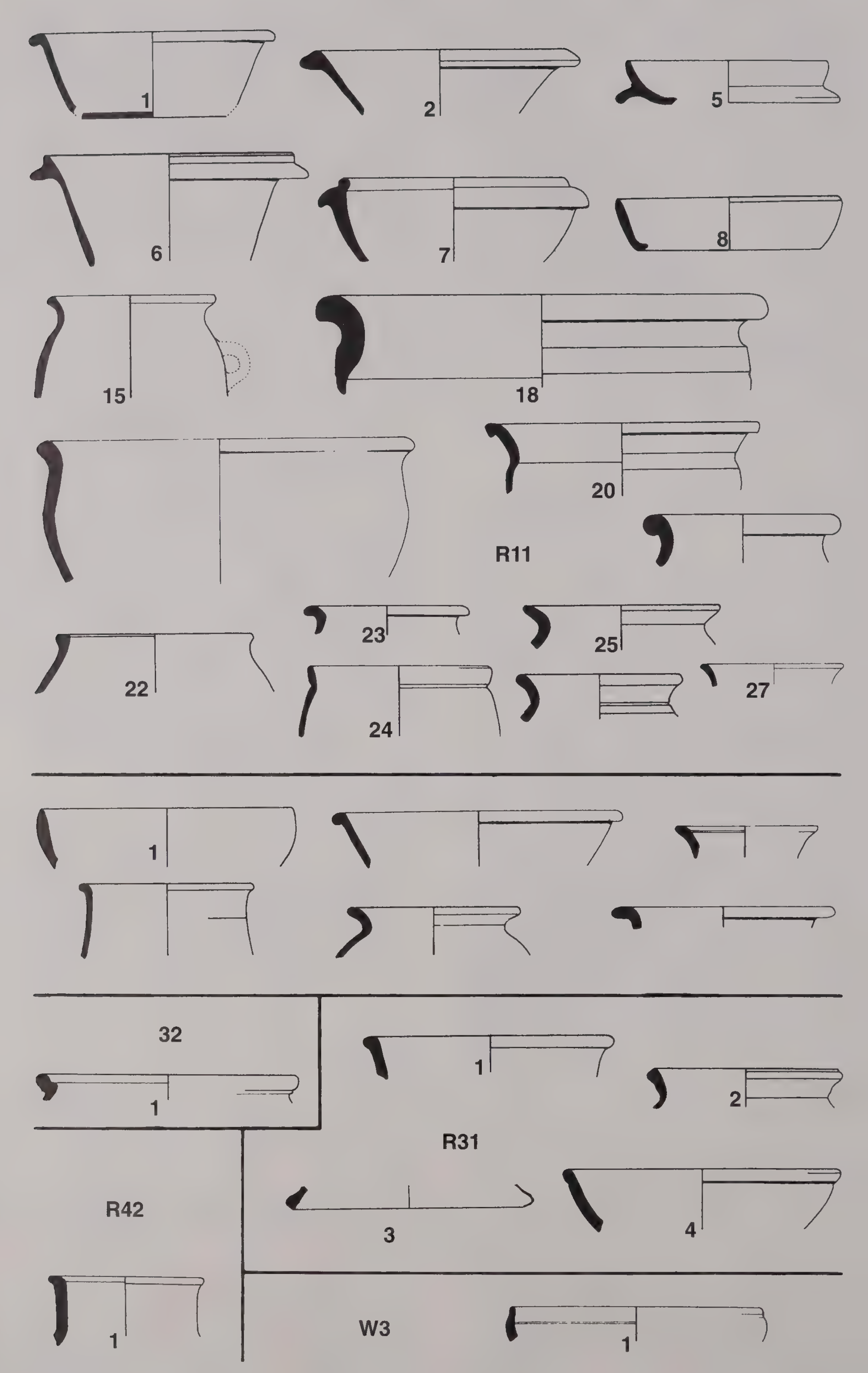


Fig. 53 Coarse pottery; fabrics R11, R15, R17, R31, R42 and W3. Scale 1:4.

and out of intrinsic interest. Table 7 shows the percentage of residual material in each area of the site both by sherd numbers and by sherd weight.

The first point of note is that the percentage by weight is less than the percentage by sherd number in twenty two out of thirty three cases; ie. generally the average sherd weight of the residual material is less than that of contemporary material, and this effect would be greater were it not for residual amphorae fragments in several groups. A second interesting point is that the average level of residual material from apparently 'occupation' deposits and from rubble and collapse deposits is almost identical (3.8 and 3.9% respectively). It might be expected that residual material in the 'occupation' deposits would be less than in the collapse and debris since the former would usually be regarded as of 'primary status' (Carver 1979). However, the nature of these deposits is not entirely clear and some may not be of 'primary status', but it seems more likely, given the overall low level of residuality, that there is little disturbance of the collapse deposits which are in effect also deposits of 'primary status' The occurrence of samian in the late fourth-century deposits would definitely seem to be due to archaeological residuality rather than as 'heirloom' material since it only comprises 16% of all the residual material, whereas if it had remained in use it should be a far higher percentage.

To turn to the aim of examining the distribution of residual material across the site in order to ascertain areas of more intensive early occupation, the results of this have been generally disappointing. There are deposits with high residual values from all areas, but the distribution of these deposits is a little disconcerting. Around Building 1, 'Rooms 1, 2, and 10 rubble' and 'Room 9 and verandah rubble' both have high values yet the 'occupation' deposits from Building 1 all show low values. The reason for this would seem to be that these rubble deposits include some robbing activity which cut into earlier deposits whilst the 'occupation' deposits did not. Similarly, around Building 2 'Rooms 1-9 'occupation'' have a residual value of 4.0% whilst in the corresponding rubble deposit the value is 10.4%.

This points to the problem that the presence of residual material is not simply an indication of earlier activity, but that it also depends upon the nature of later deposits; basically whether they are of 'primary status' relating to current activity or of 'secondary status' containing substantial amounts of redeposited material. This is a similar effect to that noted at Bath (Evans and Millett 1992) and Chester-le-Street (Evans 1991). The presence of comparatively high residual values (ie. over 7%) from all areas except Buildings 4-5 would tend to suggest that some earlier occupation could be found in these areas. The only areas where early occupation is known are the area north of Building 1 (over the early ditch) and in the courtyard area south of Building 1 (over the ditch and probably some other deposits). In the area north of Building 1 this shows up with a residual value of 10% but it does not show at all in the courtyard 'occupation' or rubble deposits because these failed to disturb the earlier material.

Looking at the site by general area, Buildings 1, 4-5 and 9 are all very similar with 3.4, 2.3 and 3.9% respectively, whilst Building 2 is rather higher at 5.1% which might suggest a slight concentration of earlier activity around Building 2 and the highest site value for the Building 2 group 'Outside room 3, below rubble' at 11.9% also hints at this.

Table 7

Percentage of residual material from the later fourth-century groups

Area	% by count	% by Weight
Building 1, Rooms 6-8 and 11, rubble	2.3	0.7
Building 1, Rooms 1, 2, 10, rubble	7.5	4.2
Building 1, Room 9/Verandah, rubble	7.8	6.4
Building 1, Rooms 3-5, rubble	1.5	0.5
Building 1, Rooms 1-5, occupation	0.5	0.1
Building 1, Rooms 6-8 and 11, occupation	0.3	0.2
Courtyard south of Building 1, rubble	1.8	2.8
Courtyard south of Building 1, occupation	3.1	2.8
North of Building 1, A, rubble	10.0	8.4
Building 2, Rooms 1-9, rubble	10.4	7.0
Building 2, Rooms 10-13, rubble	1.6	0.9
Building 2, Rooms 1-9, occupation	4.0	18.3
Building 2, Rooms 10-13, occupation	1.5	0.9
Building 2, Wall north-west of Room 12	5.5	10.5
Building 2, Outside Room 1, rubble	2.7	0.7
Building 2, West boundary wall	5.9	3.9
Building 2, Outside Room 3, rubble	4.8	1.8
Building 2, Outside Room 3, below rubble	11.9	12.3
Building 2, South and east of Building 3, rubble	2.9	1.3
Building 3, occupation	2.3	1.1
Building 3, rubble	0.6	0.1
Site LC, East of Building 4-5	4.0	4.2
Site LC, North of Building 5	2.0	2.1
Site LC, Building 5	0.5	1.2
Site LC, Building 4	1.8	1.2
Site LC, West of Buildings 4-5	0	0
Site LX/LM, North and west of Building 6, rubble	1.6	0.7
Site LX/LM, Building 6, rubble	2.7	1.8
Site LX/LM, Building 6, occupation	2.4	2.5
Site LX/LM, BXI NE etc, rubble	8.0	11.3
Building 8, rubble	5.0	1.2
DXII-DXIII, Building 9, rubble	3.3	6.7
DXII-DXIII, Building 9, occupation	4.0	0.9

Finewares

The data for percentages of finewares from the groups are given in Table 8 below. The early group, from the ditch gives a fairly low value by either sherd count or sherd weight considering that samian and both Rhenish and Nene Valley finewares were available in the period. The early fourth-century deposits run at about twice this level, although this includes a fair amount of samian and Rhenish ware which are presumably residual; however they would not appear to originate from late second-century contexts since there is a lack of the appropriate coarseware (ie. fabric P1). The late fourth-century deposits then return to a similar level to the ditch.

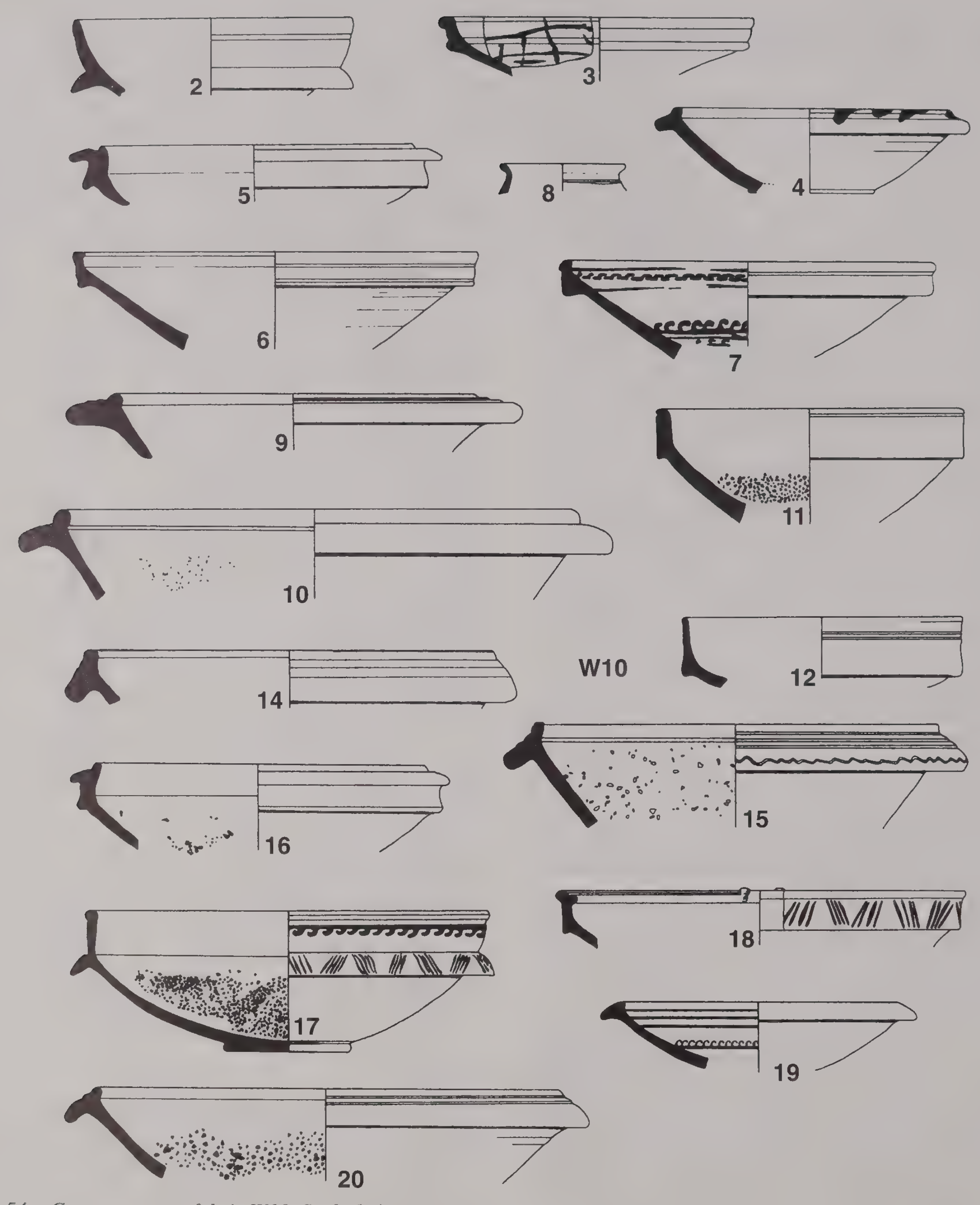


Fig. 54 Coarse pottery; fabric W10. Scale 1:4.

The low level of late ceramic finewares cannot be explained by intra-site factors and neither can it be explained by supply factors since Beadlam is nearer to Crambeck than nearly all the other sites and Nene Valley material seems to penetrate successfully far further afield. In contrast there is a large and fine collection of late Roman glassware from the site (see Price and Cottam below) which in terms of sherd numbers probably comprises between 5% and 10% of the total pottery collection. This is a much higher proportion than that found on many military and urban sites and perhaps suggests use of glassware and metal vessels for most tableware purposes, as does the presence of the bronze bowl fragment from Room 6.

An attempt was made to examine the distribution of finewares across the site in the late fourth-century deposits. Table 8 presents the percentages of finewares in each of the spatial groups both by sherd number and sherd weight. The mean and standard deviation of the groups was then calculated and those groups exceeding one standard deviation are marked + or -. Residual samian ware, whilst included in the calculations had no discernible effect on the results, its pres-

Table 8

Proportions of finewares from the groups

Group	% by count	% by Wt	% samian by count
Later second century			
Building 1 area, Ditch	5.5	3.8	3.9
Early to mid-fourth century			
North of Building 1, C	12.8	10.9	6.4
Courtyard S of Building 1, under yard surface (5)	16.2	8.1	1.0
Mid-late fourth century			
North of Building 1, B	11.0	14.6	3.5
Late fourth century			
Building 1, Rooms 6-8 and 11, rubble	6.3	7.9	1.1
Building 1, Rooms 1, 2, 10, rubble	6.2	7.5	0.6
Building 1, Room 9/Verandah, rubble	7.8	25.1+	0.7
Building 1, Rooms 3-5, rubble	1.9-	0.2	0
Building 1, Rooms 1-5, occupation	2.0-	1.5	0
Building 1, Rooms 6-8 and 11, occupation	3.8	1.7	0
Courtyard south of Building 1, occupation	6.8	6.3	0
Courtyard south of Building 1, rubble	1.7-	0.6	0.9
North of Building 1, A	9.3+	5.2	1.7
Building 2, Rooms 1-9, rubble	5.2	3.8	2.6
(Building 2, Rooms 10-13, rubble	10.6+	15.5+	0)
Building 2, Rooms 1-9, occupation	1.3-	8.0	0
Building 2 Rooms 10-13, occupation	7.8	8.6	0.4
Building 2, Wall north-west of Room 12	6.8	4.5	1.4
Building 2, Outside Room 1, rubble	3.8	3.6	1.1
Building 2, West boundary wall	4.8	1.9	0
(Building 2, South and east of Building 3, rubble	9.4+	2.4	1.9)
Building 2, Outside Room 3, rubble	15.9+	10.2	0.6
Building 2, Outside Room 3, below rubble	9.0	4.6	0.7
Building 3, rubble	5.6	10.7	0.6
Building 3, occupation	7.8	9.2	0
Site LC, East of Building 4-5	2.7-	2.8	0.5
Site LC, North of Building 5	3.8	3.2	0
Site LC, Building 4	4.8	6.3	0
Site LC, West of Buildings 4-5	9.7+	13.8	0
Site LC, Building 5	5.6	2.9	0
Site LX/LM, North and west of Building 6, rubble	4.8	3.6	0
Site LX/LM, Building 6, rubble	3.4	2.9	0.1
Site LX/LM, Building 6, occupation	1.9-	0.9	0
Site LX/LM, BXI NE etc, rubble	4.0	5.0	0
DXII-DXIII, Building 8, rubble	8.3	39.0+	3.3
DXII-DXIII, Building 9, rubble	4.4	2.5	0
DXII-DXIII, Building 9, occupation	7.9	6.3	1.0

ence does not explain high values or its absence low ones. The results show no obvious spatial patterning, the groups from all three main ranges of buildings are very similar and there is very little correlation between the two methods of quantification in the case of the exceptional values, one matched pair of values to twelve unmatched. Even if instead of standard deviations values of plus or minus 50% of the mean are used, as has been done elsewhere (Millett 1983) there are still 9 unmatched pairs to seven matched. It therefore appears that there is no interpretable patterning of fineware distribution across the site.

Function

An attempt has been made to examine functional variation amongst the Beadlam pottery both through time and by area of site. Clearly archaeologically residual rims have been excluded from the calculations.

Table 9 below shows the data from the groups. Overall the figures tend to suggest a very stable use of pottery throughout the history of the site with no significant long term trends. The Beadlam group is intermediate between the forts and towns and the signal stations as is the group from the civil site at Long Whins near Filey (Hull 1932). This may be a general pattern for northern villas (Evans 1993).

The Rudston group, although from another villa, stands out as very different from all the other sites and it is clear that this is a result of its being a well deposit with a very strong functional bias towards liquid containers, and this may well have implications for other interpretations based on this group if this factor is not fully taken into account.

Rigby argued the date of the Rudston well deposit on just such a basis; 'The types from the latest group in the well parallel those from the Yorkshire Signal Stations but represent only part of the range of types and fabrics available in the region after *c*. A.D. 367. There is a notable absence of the latest Crambeck parchment ware mortaria, types 7 and 8, there are no platters, dishes or jars in Nene Valley colour-coated wares, and the range of types in Fabric 2 [calcite gritted wares] lacks flanged dishes; this also applies to the site in general. It is suggested that occupation on the site, or at least in the vicinity of the areas investigated ended before the Signal Stations in *c*. A.D. 380' (Rigby 1980, 94).

The lack of colour-coated ware, as Rigby noted (1980, 43) is almost certainly a result of the functional breakdown of the group. Similarly Crambeck parchment ware, which is almost exclusively in dish or bowl form and is normally less than 10% of an assemblage, is not unexpectedly absent in such circumstances. Since there are no mortaria in the group the lack of the latest Crambeck mortaria can have little meaning. When the functional differences are taken into account the forms represented in the Rudston well deposit are very comparable with those from the later fourth-early fifth-century deposits from the collapse of Building 3 at Beadlam (Table 10). This Beadlam deposit might extend into the fifth century as the strong late coin list suggests. There are no clear grounds from the short Rudston list for believing that occupation ends any earlier, as coins of periods 20 and 21 are generally scarce and the Rudston period 19 list is actually stronger than the 'average' northern site (Mckay 1981).

Table 9

Functional analysis of the Beadlam groups by percentage

Groups	Jars	Dishes	Bowls	Flagons	Mort	Beakers	Lids	Amph	n
Mid-late second century									
Building 1 area, Ditch	64	0	18	9	9	0	0	0	11
Early-mid fourth century									
Courtyard south of Building 1, under yard surface (5)	65	10	5	0	10	5	0	0	20
Mid-late fourth century									
North of Building 1, B	48	22	17	1	8	3	2	0	116
DXII-DXIII, Building 9,occupation	43	17	24	2	7	5	2	0	42
Late fourth century									
Building 2, Rooms 10-13, rubble	71	0	23	6+	0-	0	0	0	35
Building 2, Rooms 1-9, occupation	72	11	11	0	6	0	0	0	18
Building 2, Rooms 10-13,occupation	55	5	40+	0	0-	0	0	0	20
Building 2, Walls north-west of Room 12	63	5	16	0	5	11+	5+	0	1
Building 2, OutsideRoom 1, rubble	75	11	7	0	4	0	4+	0	28
Building 2, West boundary wall	53-	21+	11	11+	0-	0	5+	0	19
Building 2, Outside Room 3,rubble	50-	27+	18	0	5	0	0	0	22
Building 2, Outside Room 3, below rubble	77+	7	13	0	3	0	0	0	31
Building 2, South and east of Building 3, rubble	76+	0	8-	0	4	8+	4+	0	25
Building 1, Rooms 6-8 and 11, rubble	39-	11	44+	0	6	0	0	0	18
Building 1, Rooms 1, 2, 10,rubble	58	8	27	0	8+	0	0	0	26
Building 1, Rooms 1-5, occupation	58	19+	22	0	0-	0	0	0	36
Building 1, Rooms 6-8 and 11, occupation	72	0	17	0	6	6+	0	0	18
Courtyard south of Building 1, occupation	74	16	6-	4+	4	6+	0	0	50
North of Building 1, A	72	6	19	2	0-	0	0	0	47
Building 3, rubble	69	8	15	0	7	2	0	0	62
Building 3, occupation	46-	20+	20	3	6	6+	0	0	35
Site LC, East of Buildings 4-5	70	12	14	0	2	0	2	0	43
Site LC, North of Building 5	61	13	23	3	0-	0	0	0	31
Site LC, Building 4	81+	6	0-	0	13+	0	0	0	16
Site LC, Building 5	67	8	23	0	0-	3	0	0	39
Site LX/LM, North and west of Building 6, rubble	57	4	26	4+	9+	0	0	0	23
Site LX/LM, Building 6, rubble	70	7	17	3	3	0	0	0	80
Site LX/LM, Building 6,occupation	67	14	10	0	0-	5	5+	0	21
Site LX/LM, BXI NE, etc, rubble	64	17	13	0	2	2	2	0	53
Site LX/LM, Building 9, rubble	65	13	19	0	0-	3	0	0	31
Site mean	64.7	10.3	17.8	1.4	3.6	2.0	1.0	0	

Table 10

Comparison of the forms occurring in the Rudston well and in a later fourth-early fifth-century group from Beadlam

Forms	Rudston layers 266-9 (%)	Beadlam Building 3 rubble (%)
Huntcliff type	85	39
S-bend jars	2	3
Flanged bowls	5	12.5
Hemispherical flanged bowls (Dr 38)	0.4	1.6
Proto-Huntcliff type jars	0	3.1
n.	257 rims	64 rims

Table 9 shows the variation in the functional composition of groups across the site. The mean and standard deviation of each functional type have been calculated and those figures exceeding one standard deviation have been marked plus or minus depending on whether they exceed above or below the mean. This method has been chosen rather than all items exceeding plus or minus 50% of the mean for that functional group (which has been used elsewhere (Millett 1983)) because it does not automatically highlight all values of zero as significant, which that method does. The function figures have only been calculated for groups which have a minimum number of rims of fifteen or above as above this number the results do not appear to be unduly effected by group size. The interpretation of the data is not very straightforward and little more than tentative suggestions can be made. The variations would not appear to be random, even if they are not easily interpretable, especially since there seems to be a marked spatial element in the distribution of the proportions of the major fabric types across the site.

The most likely reason for this is the correlation between fabric and function as nearly all the vessels in calcite gritted ware are jars, whilst bowls and dishes are the commoner types amongst the greywares. It is quite probable that many of the difficulties with these data lie with the fact that although it represents a fairly short span of time the structural sequence of the buildings (which cannot be transferred to the phasing of the deposits) suggests various changes to the layout of the site within this period.

On the whole Buildings 4-9 tend to remain fairly close to the means whilst most of the variations are within the Building 1 and Building 2 areas. In the area of Buildings 4-5 the enigmatic late structure, Building 5, with the apsidal end has a very strong emphasis on jars, a low level of dishes/bowls but with a high level of mortaria. Whilst this is a small group there seems little reason to doubt this result, which is reflected in the low percentage of greyware in the fabric table (Appendix 4). Perhaps this group represents a food preparation or storage function.

Building 1 is most interesting; the fabric figures show a tendency for there to be a lack of greywares from the site and although this is not borne out by exceptionally high jar values this tends to be because most of the jars are calcite gritted with greyware jars being few when compared with Building 2. It must be admitted that there are examples of a, perhaps disconcerting, lack of correlation between some of the 'occupation' deposits and the rubble/collapse deposits overlying them, the classic case being 'Rooms 6-8 and 11 occupation' and 'collapse'. As the fabric figures tend to suggest that this result is not accidental, it may perhaps reflect differing use of the area. Building 3 was occupied when this part of Building 1 was demolished and material in the collapse would seem to be associated with the occupation of Building 3. There are low jar values and high tableware values from the 'occupation' deposits from Building 3 and 'Rooms 6-8 and 11 rubble' which is probably contemporary with it.

The 'occupation' deposits of Building 1 itself were examined in two groups; Rooms 6-8 and 11, a bath suite and Rooms 1-5, the entrance, corridors, kitchen and hypocausted mosaic room. The pottery from these groups was distinctly different with Rooms 6-8 and 11 being dominated by jars and short of dishes/bowls whilst Rooms 1-5 were very well provided with dishes/bowls though lacking in mortaria. This is a very similar situation to that found in Building 2.

Building 2 was examined in two groups also; Rooms 1-9, a bath suite and Rooms 10-13, a domestic area. Although not exceeding the standard deviation Rooms 1-9 showed an emphasis on jars, whilst Rooms 10-13 showed a significant strength in dishes/bowls though with a lack of mortaria. Presumably these groups with high dishes/bowls figures must represent domestic occupation, food preparation and consumption rather than separate dining areas, since Room 1, Building 1 and Room 12, Building 2 both have ovens and would appear to be kitchens. (The access to the mosaic room in Building 1 is rather odd, but its location next to and access from the kitchen might suggest that its basic function was as a dining room.)

The deposits in the yard area, around Building 2 are all rather similar, a pleasing result since the divisions between the areas are rather arbitrary. These groups tend to be markedly above the mean for jars, rather weak for dishes/bowls and tend to have lids (which are probably associated with the jars). Overall lids appear to be almost confined on the site to the areas of Buildings 2 and 9. It is perhaps surprising that mortaria seem to be spread fairly evenly across the site and are not particularly associated with either high values for jars or high values for dishes/bowls, as might, perhaps, have been expected.

Conclusions

The pottery supply at Beadlam appears to have been very similar to that at Rudston with a major section of coarsewares being supplied by local calcite gritted ware producers throughout the Roman period. The sources of the calcite and calcareous gritted ware fabrics would seem to have varied through time, the only certain source is Knapton for the third- and fourth-century Knapton type jars, but they continued to develop the indigenous Iron Age tradition throughout the Roman period. It is probable that some of the residual oxidised

fabrics come from the Malton area and the major greyware suppliers appear to have been Holme-on-Spalding Moor and Crambeck with some Norton material. Thus Beadlam conforms to the same general pattern as Rudston, and Brough-on-Humber to a lesser extent (as Brough shows more links with Lincolnshire to the south) of isolation from the general run of northern pottery supply until the late fourth century when it falls into line, not by changing its suppliers, but because the rest of the north had taken to supplies from East Yorkshire (Evans 1988). Throughout the Roman period the inhabitants of East Yorkshire seem to have rarely accepted pottery from outside the region, the classic examples of this being the lack of both BB1 and BB2, and what is accepted mainly required specialist skills, eg. Nene Valley colour-coated wares, and mortaria. Similarly many East Yorkshire types seem confined in terms of distribution to the region itself.

Catalogue of the Illustrated Vessels

Owing to the vicissitudes the collection has undergone, a number of sherds originally selected for illustration are now missing and cannot be illustrated.

Fig. 45

Fabric

A2.1	A Dressel 20 amphora rim, 1st-3rd century.
A20.1	An amphora handle not illustrated here but published by Rigby (1988) as that from a Campanian Dressel 1, but which may be from an Arthur 82 (Arthur and Williams 1992, note 6).
B1.1	A BB1 developed flanged bowl, later 3rd-4th century.
B1.2	A BB1 simple rimmed dish.
B1.3	A later 3rd-4th century BB1? jar rim.
B1.4	A BB1 flanged bowl, 2nd century.
B10.1	A beaded and flanged bowl (Monaghan 1987, 5A2-5), mid-late 3rd century.
B10.2	A bead rimmed dish, cf. Gillam (1970) type 225.
B10.3	A grooved rim and chamfered dish (Monaghan 1987, 5F3), later 2nd-early 3rd century.
F10.1	A 'Rhenish ware' beaker with beaded vertical rim (cf. Greene 1978, fig. 2.3, no. 5), mid-2nd to mid-3rd century.
F11.1	A Dr 38 copy bowl (cf. Howe *et al* 1980, no. 83), later 3rd-4th century.
F11.2	A 'Castor box' (cf. Howe *et al* 1980, no. 89), late 2nd-4th century.
F11.3	A flanged bowl (cf. Howe *et al* 1980, type 79), mid-late 4th century.
F11.4	A simple rimmed bag beaker with groove on shoulder (cf. Howe *et al* 1980, no. 44), later 2nd to mid-3rd century.
F11.5	A cornice rimmed bag beaker (cf. Howe *et al* 1980, nos. 26-30), later 2nd to mid-3rd century.
F11.6	A variant of the bag beaker with vertical walls, grooved below the rim (cf. Howe *et al* 1980, no. 45), later 2nd-3rd century.
F11.7	Slightly beaded tall necked beaker (cf. Howe *et al* 1980, nos. 54-7), 4th century.
F11.8	A bead rimmed beaker with fairly vertical neck (cf. Howe *et al* 1980, nos. 49-54), later 3rd-4th century.
F11.9	A beaker with simple rim and almost vertical neck with pronounced shoulder (cf. Howe *et al* 1980, nos. 38-9 and 42-3), mid-late 3rd century.
F11.10	A simple rimmed dish (cf. Howe *et al* 1980, type 87), 3rd-4th century.
F11.11	A constricted necked jar with grooved rim (cf. Howe *et al* 1980, nos. 70 and 74), mid-late 4th century. Not illustrated.
F11.12	A 'Castor box' lid, (cf. Howe *et al* 1980, type 89), late 2nd-4th century.
F11.13	A flagon rim (cf. Howe *et al* 1980, no. 63), 4th century.
G1.1	A flanged bowl, 4th century, probably later 4th century.
G1.2	A flanged bowl with a low bead, 4th century.
G1.3	A simple rimmed dish.
G1.4	A simple rimmed dish with thick wall base tapering to the rim.
G1.5	A bead rimmed dish.
G1.6	An internally beaded dish.
G1.7	A flagon rim fragment with S-profiled neck and rim. Not illustrated.
G1.8	A jar with an everted rising, thickened rim.
G1.9	A Knapton type jar (and earlier examples of the same form), Iron Age-3rd century.
G1.10	An everted rimmed jar with squared, splaying, end.
G1.11	Jar with everted rising rim which exceeds maximum girth of the vessel (cf. Rigby 1980, nos. 10 and 144), Iron Age-2nd century.

Fig. 46

Fabric

G1.12	A jar with rather vertical, slightly everted rim (cf. Rigby 1980, no. 26), Iron Age-2nd century.
G1.13	An everted rising rimmed jar with beaded rim. Not illustrated.
G1.14	A jar with an everted, horizontal, thickened rim.
G1.15	A jar with everted, thickened rim.
G1.16	Jar with everted rising rim, possibly copying later BB1 forms.
G1.17	Jar with outcurving, rising, rim.
G1.18	A jar with everted undercut square-ended rim.
G1.19	A jar with a curving S-bend profile, early to mid-4th century.
G1.20	An S-bend type jar with internal groove, mid-late 4th century.
G1.21	A jar with long rising, everted rim with internal groove, mid-late 4th century.
G1.22	A lid-seated jar with broad seating and more or less horizontal everted rim.
G1.23	A jar with everted horizontal rim and internal groove and slight shoulder, probably late 4th century.
G1.24	Jar with everted, slightly beaded rim and internal groove, mid-late 4th century.

G1.25 A Huntcliff type jar rim, later 4th century. The complete drawn example is from Building 8 where it was deposited over the head of an infant burial.

G1.26 A shouldered jar with horizontal, everted, rim, mid-late 4th century.

G1.27 A shouldered jar with a rising rim and internal groove, a variant of the Huntcliff type, later 4th century.

G1.28 A shouldered jar with beaded rim and internal groove, variant of the Huntcliff type, later 4th century.

G1.29 Jar with everted, rising, rim and two internal grooves, mid-late 4th century.

G1.30 A jar with everted fairly horizontal rim, internal groove and slight shoulder, variant of the Huntcliff type, mid-late 4th century.

G1.31 A Huntcliff type jar rim without internal groove, later 4th century.

G1.32 A jar with an everted, undercut, rim, ?mid-late 4th century.

Fig. 47

Fabric

G1.33 A shouldered jar with beaded rim (cf. Hornsby and Stanton 1912, no. 22).

G1.34 A jar with everted, horizontal, rim, ?mid-late 4th century.

G1.35 Jar with everted, horizontal rim.

G1.36 A small necked jar with everted rim (Gillam 1970, type 164), 4th century.

G1.37 A wide-mouthed jar with everted, rising, rim.

G1.38 A wide-mouthed jar of Huntcliff type rim form, later 4th century.

G1.39 A wide-mouthed jar with everted, horizontal rim and internal groove, mid-late 4th century.

G1.40 Shouldered storage jar with horizontal, everted, triangularly-sectioned rim.

G1.41 A shouldered storage jar with everted, undercut rim and internal groove, mid-late 4th century.

G1.42 Lid with triangular, flat-topped rim.

G1.43 A jar lid with simple squarish rim.

G1.44 A lid with rim curved upwards.

G1.45 A simple dish with a curving wall.

G2.1 A jar with an everted rising, thickened rim.

G2.2 A Knapton type jar (and earlier examples of the same form), Iron Age-3rd century.

G2.3 A lid-seated everted rimmed jar.

G2.4 A small necked jar with everted rim (Gillam 1970, type 164), 4th century.

G2.5 A jar with everted, rising, rim.

G2.6 A jar with a curving S-bend profile.

G2.7 A jar with everted, rising, thickened rim.

G2.8 A jar with everted, horizontal, rim, ?mid-late 4th century. Cf. G1.34. Not illustrated.

G2.9 A jar with everted undercut square-ended rim, apparently copying the form from Southern Shell-Tempered ware (cf. Sanders 1973; Plouviez 1976), mid-late 4th century.

G2.10 A beaded ?lid rim.

G2.11 A constricted-necked jar with everted, horizontal rim.

Fig. 48

Fabric

G4.1 A simple rimmed dish.

G4.2 A jar with an everted rising wedge-shaped rim.

G4.3 A jar with everted, slightly undercut rim and broad internal groove, wavy line decoration on rim of drawn example.

G4.4 A Huntcliff type jar rim, generally with two applied loop handles and burnished decoration, later 4th century.

G4.5 A shouldered jar with a rising rim and internal groove, a variant of the Huntcliff type, later 4th century.

G4.6 A jar with everted fairly horizontal rim, internal groove and slight shoulder, mid-late 4th century. Cf. G1.30. Not illustrated.

G4.7 A jar with an everted, undercut, rim, ?mid-late 4th century. Wavy line decoration on top of rim of drawn example.

G4.8 A small necked jar with everted rim (Gillam 1970, type 164), 4th century. Not illustrated.

G4.9 A wide-mouthed jar of Huntcliff type rim form, later 4th century.

G4.10 A wide-mouthed jar with horizontal, everted rim.

G4.11 A heavy, horizontal, rounded, everted storage jar rim.

G5.1 A Huntcliff type jar rim, later 4th century.

G5.2 A small necked jar with everted rim (Gillam 1970, type 164), 4th century.

G5.3 A shouldered jar with beaded rim and internal groove, variant of the Huntcliff type, later 4th century.

G5.4 A jar with everted, rising, rim.

G5.5 A jar with a curving S-bend profile.

G5.6 A shouldered jar with beaded rim (cf. Hornsby and Stanton 1912, no. 22).

G5.7 A simple barrel jar (Gillam 1970, type 155), late 4th century.

G5.8 A simple barrel jar with internally beaded rim (cf. Gillam 1970 type 155), late 4th century.

G5.9 A small shouldered jar with everted rising rim.

G5.10 An everted rimmed jar with beaded rim.

G5.11 A small jar with outcurving rising rim.

G10.1 A Dales type jar (Loughlin 1977), 3rd to mid-4th century.

G11.1 Jar with everted undercut square-ended rim in Southern Shell-Tempered ware (cf. Sanders 1973; Plouviez 1976), mid-late 4th century.

G20.1 A jar with an everted rising bell-mouthed rim.

G20. A jar? with an everted rising rim.

G20.3 A lid-seated everted rimmed jar, cf. Swanpool type H (Webster and Booth 1947).

G20.4 A small shouldered jar with everted rising rim. Not illustrated.

G21.1 A lid-seated everted rimmed jar, cf. Swanpool type H (Webster and Booth 1947).

G21.2 A jar with an everted, horizontal rim.

G21.3 A flanged lid?

Fig. 49

Fabric

G22.1 A lid-seated jar with everted horizontal rim.

G22.2 A Knapton type jar (and earlier examples of the same form), Iron Age-3rd century.

G22.3 A jar with everted, rising, thickened rim.

G22.4 An everted rising rimmed jar with lid-seating.

G22.5 A lid-seated everted rimmed jar, cf. Swanpool type H (Webster and Booth 1947). Cf. G21.1. Not illustrated.

G22.6 A jar with an everted, rising, slightly lid-seated rim.

G22.7 A jar with an everted, rising, thickened rim and lid-seating.

G22.8 A lid seated jar with everted, slightly undercut rim.

G22.9 A jar with an everted, horizontal rim.

G22.10 A jar with an everted, flanged rim.

M1.1 A beaded and flanged mortarium with a fairly vertical flange, grooved at the bottom, an Antonine vessel on typological grounds, possibly Malton (KFH).

M3.1 A beaded and flanged mortarium, grooved at bottom of flange, a Malton type, late 2nd century (KFH). Cf. Gillam 1970, type 267.

M4.1 A beaded and flanged mortarium with flange rising slightly above bead, (cf. Gillam 1970, type 243), Hadrianic at latest, north-east England (KFH). Unstratified or ungrouped

M4.2 A beaded and flanged oxidised mortarium, not slipped, probably local and dated *c* A.D. 130-200 (KFH).

M4.3 An oxidised mortarium with white slip on interior and exterior, beaded and flanged with an illegible stamp on the rim, probably fairly local, *c*A.D. 130-200. Mrs Hartley notes that no other example of the stamp is known, but the fabric points to manufacture in northern England and a date in the mid-2nd century is likely.

M5.1 A beaded and flanged mortarium with grooves on the upper flange, probably 4th century, possibly Swanpool (KFH). Cf. Webster and Booth 1947, type A1.

M5.2 A well worn grooved hammerhead mortarium flange, burnt, probably Swanpool, later 3rd-4th century (KFH).

M5.3 A white slipped oxidised mortarium with two large circular rivet holes, probably Swanpool (KFH), cf. Webster and Booth (1947), type A2.

M6.1 A Cold Cam(?) redware mortarium base with black slag trituration grits, 4th century.

M7.1 A hammerhead mortarium with grooved flange, 3rd century, north-east England, (KFH).

M8.1 A deeply flanged mortarium with a slight vertical bead in an unusual fabric, Hadrianic at latest, probably fairly local (KFH). Cf. Gillam 1970, type 243.

M9.1 A highly unusual, massive mortarium rim of very large diameter, with worn interior. It has been repaired in antiquity with a massive iron staple on the rim. Probably second half of the 2nd century and either Rhenish or a local product (KFH).

M10.1 A large mortarium spout from a Rhenish import, *c*. A.D. 160-200, Lower Germany (KFH). Cf. Gillam 1970, type 254.

M11.1 A mortarium flange fragment, burnt, possibly from a Rhenish vessel (cf. Hartley and Evans in prep. types M115-7), perhaps 2nd century.

Fig. 50

Fabric

M13.1 A grooved Mancetter-Hartshill hammerhead mortarium, 3rd-early 4th century.

M14.1 A beaded and flanged Oxfordshire mortarium, Young (1977) type M20, *c*. A.D. 240-300 (KFH).

O1.1 A cornice rimmed bag beaker.

O3.1 A beaker or carinated bowl with simple rim and vertical neck.

O10.1 An unusual dish with squared beaded rim.

O11.1 A grooved rim dish with curving wall.

O12.1 A wide-mouthed jar with everted, horizontal or slightly undercut rim. Not illustrated.

O14.1 Body sherds from a costrel.

O20.1 A small jar with an everted, thickened, rising rim.

O30.1 A sub-cornice rimmed beaker?, 4th century.

O30.2 A Dr 38 copy bowl, Crambeck type 5, 4th century.

O30.3 A beaded and flanged bowl, surfaces red slipped, 4th century.

P1.1 A jar with square ended everted, rising rim of similar form to the later Knapton type, Iron Age-2nd century.

P1.2 Jar with everted rising rim which exceeds maximum girth of the vessel (cf. Rigby 1980, nos. 10 and 144), Iron Age-2nd century.

P1.3 A jar with rather vertical, slightly everted rim (cf. Rigby 1980, no. 26), Iron Age-2nd century.

P1.4 A jar with everted, rising, thickened rim, Iron Age-2nd century.

P1.5 A small necked jar with everted rim.

P1.6 A jar with everted, horizontal, rim.

P1.7 A shouldered jar with hooked rim.

P1.8 A jar with a curving S-bend profile.

P1.9 A simple rimmed barrel jar, Iron Age-2nd century.

P1.10 A jar with a beaded, undercut rim.

P1.11 A lid with beaded rim.

P1.12 A jar with a vertical bevelled rim (cf. Rigby 1980, no. 1), Iron Age-2nd century.

Fig. 51

Fabric

P1.13 A jar with an everted tapering rim, Iron Age-2nd century.

P1.14 A simple rimmed dish.

P1.15 A jar lid with a thick squared rim.

P2.1 A jar with an everted rising rim of similar form to the later Knapton type, Iron Age-2nd century.

Q1.1 A dish or bowl with a beaded and grooved rim with brown oxidised surfaces.

R1.1 A carinated jar with thickened rim.

R6.1 A constricted-necked jar/flagon with undercut rim.

R6.2 A constricted-necked jar with everted, rising, thickened rim.

R7.1 A beaded and flanged bowl (Corder and Sheppard 1930, nos. 1, 2-9, 11-2 and 15-9), 4th century.

R7.2 A tall necked, slightly bead rimmed beaker. Not illustrated.

R7.3 A simple rimmed dish (Hicks and Wilson 1975, nos. 32-3), later 3rd-4th century. Not illustrated.

R7.4 A groove rimmed dish (Hicks and Wilson 1975, no. 31), later 3rd-4th century.

R7.5 A bead rimmed, curving walled dish with wavy line burnished decoration on interior (cf. Rigby 1980, no. 39), probably 2nd century. The form suggests this may be a Lincolnshire product rather than Holme-on-Spalding Moor.

R7.6 A bead rimmed flagon neck.

R7.7 A bead rimmed, cordoned, stepped neck flagon (Corder and Sheppard 1930, nos. 58-66 and 69), late 3rd-4th century.

R7.8 A jar with an everted rounded rim (Corder and Sheppard 1930, nos. 73-6 and 89 and Hicks and Wilson 1975, nos. 9 and 10). Not illustrated.

R7.9 A jar with a thick, rounded, everted rim (Hicks and Wilson 1975, nos. 6-8), later 3rd-4th century.

R7.10 A fairly narrow-mouthed jar with fairly vertical, everted rim. Not illustrated.

R7.11 A jar with a sharply everted rim of rectilinear, square-ended form (Corder and Sheppard 1930, nos. 72, 80 and 81), late 3rd-4th century.

R7.12 A jar with an everted, undercut rim.

R7.13 An undercut S-profiled, wide-mouthed jar (Corder and Sheppard 1930, nos. 21 and 31), late 3rd-4th century.

R7.14 A wide-mouthed jar with a hooked, undercut rim (Corder and Sheppard 1930, nos. 23, 26, 30, 35-8), late 3rd-4th century.

R7.15 A wide-mouthed jar with an everted, rising rim (Corder and Sheppard 1930, no. 34), late 3rd-4th century.

R7.16 A carinated jar with everted rim and outward sloping wall (Hicks and Wilson 1975, no. 22), late 3rd-4th century.

R7.17 A small shouldered jar with a beaded rim. Not illustrated.

R7.18 A small jar with everted rising rim.

R7.19 A flanged rim dish (cf. R7.5).

R7.20 A small shouldered jar with everted, rising, thickened rim and cordoned neck.

R8.2 A simple rimmed dish, decorated with an unusual rectilinear burnished motif on the interior and exterior of the base.

Fig. 52

Fabric

R9.1 A Dr 38 copy bowl, Crambeck type 5 (Corder 1937), 4th century. Not illustrated.

R9.2 A Dr 38 copy bowl, Crambeck type 5a (Corder 1937; Corder 1928, no. 20), 4th century.

R9.3 A flanged bowl, variant of Crambeck types 1 and 1b (Corder 1937), 4th century.

R9.4 A beaded and flanged bowl, Crambeck types 1 and 1b (Corder 1937), 4th century.

R9.5 A flanged bowl with horizontal or rising flange, variant of Crambeck types 1 and 1b (Corder 1937), 4th century.

R9.6 A wide-mouthed bowl/jar with fairly horizontal rim, variant of Crambeck type 4 (Corder 1937; Corder 1928, no. 162?), 4th century.

R9.7 A beaded carinated bowl, Crambeck type 13a (Corder 1937), 4th century.

R9.8-9 A Crambeck type 12 beaker (Corder 1937), 4th century. Also illustrated a neck and shoulder sherd with unusual decoration.

R9.10 A flanged dish with rising flange, variant of Crambeck type 1a (Corder 1937), 4th century.

R9.11 Crambeck type 2 simple dish (Corder 1937), 4th century.

R9.12 A simple dish with section narrowing towards rim, variant of Crambeck type 2 (Corder 1937), 4th century. Not illustrated.

R9.13 A Crambeck type 2a dish (Corder 1937), 4th century.

R9.14 A bead rimmed dish, 4th century.

R9.15 A variant of the Crambeck type 2a dish (Corder 1937) with double grooved rim, 4th century.

R9.16 A disc necked flagon, variant of Crambeck type 14 (Corder 1937), 4th century.

R9.17 A constricted-necked jar with everted, horizontal rim.

R9.18 A constricted-necked jar with everted, rising rim.

R9.19 A splaying-mouthed, cordoned flagon rim (Corder 1928, no. 171), 4th century.

R9.20 An everted rimmed jar, sherd lost. Not illustrated.

R9.21 A jar with a thick, rounded, everted rim, probably a variant of a Crambeck type 3 jar (Corder 1937), 4th century.

R9.22 A Crambeck type 3 jar (Corder 1937), 4th century.

R9.23 An outcurving S-profiled jar rim, probably a variant of Crambeck type 3 (Corder 1937), 4th century. Not illustrated.

R9.24 A Crambeck type 3a jar (Corder 1937), 4th century.

R9.25 A shouldered jar with hooked rim, probably a variant of Crambeck type 3 (Corder 1937; Corder 1928, no. 86), 4th century. Not illustrated.

R9.26 A jar with an everted undercut rim. Not illustrated.

R9.27 A wide-mouthed bowl with shouldered, everted rim (Corder 1928, nos. 142-6, 159 and 164-5), 4th century.

R9.28 An S-profiled wide-mouthed jar with undercut rim, variant of Crambeck type 13 (Corder 1937; Corder 1928, nos. 153 and 156-8), 4th century. Not illustrated.

R9.29 A medium-mouthed carinated jar with vertical wall and everted rim, 4th century.

R9.30 A carinated jar with everted rim and outward sloping wall, 4th century.

R9.31 A small shouldered jar, variant of Crambeck type 11 (Corder 1937), 4th century. Not illustrated.

R9.32 A Crambeck type 11 small jar (Corder 1937), 4th century.

R9.33 A small jar, variant of Crambeck type 11 (Corder 1937; Corder 1928, nos. 89 and 91), 4th century. Not illustrated.

R9.34 A small, almost bead rimmed jar with cordon beneath rim.

R9.35 A small jar with everted rim, a variant of Crambeck type 11.

R9.36 A lid with a slight chamfer on the rim.

R9.37 A bowl or wide-mouthed jar with everted, horizontal rim, a variant of Crambeck type 4.

R9.38 A small jar with rising, everted rim and grooved shoulder.

R10.1 A tall necked, slightly bead rimmed beaker.

R10.2 A bead rimmed dish.

R10.3 A bead rimmed dish with undercut rim.

R10.4 A small jar with everted, rising rim. Not illustrated.

R10.5 A small jar with everted, rising rim.

R10.6 A jar with a thick, rounded, everted rim.

Fig. 53

Fabric

R11.1 An undercut bead rimmed bowl.

R11.2 A triangular rimmed bowl.

R11.3 A bead rimmed bowl with undercut rim (cf. Gillam 1970, type 225). Not illustrated.

R11.4 A flange rimmed bowl (cf. Gillam 1970, type 219). Not illustrated.

R11?.5 A Dr 38 copy bowl, 4th century.

R11.6 A beaded and flanged bowl, late 3rd-4th century.

R11.7 A flanged bowl (cf. Wacher 1969, no. 741), both these vessels can be paralleled at Messingham (Rigby and Stead 1976, fig. 73) and at Swanpool in type D13 (Booth and Webster 1947).

R11.8 A simple rimmed dish.

R11.9 A bead rimmed dish. Not illustrated.

R11.10 A bead rimmed dish with undercut rim. Not illustrated.

R11.11 A jar with an everted rounded rim (Corder and Sheppard 1930, nos. 73-6 and 89 and Hicks and Wilson 1975, nos. 9 and 10). Not illustrated.

R11.12 An everted rimmed jar, sherd missing. Not illustrated.

R11.13 A lid-seated everted rimmed jar, cf. G21.1, cf. Swanpool type H (Booth and Webster 1947). Not illustrated.

R11.14 A bead rimmed jar. Not illustrated.

R11.15 A jar beaker with a curving S-profiled rim.

R11.16 A jar with a sharply everted rim of rectilinear, square-ended form (Corder and Sheppard 1930, nos. 72, 80 and 81), late 3rd-4th century. Not illustrated.

R11.17 A wide-mouthed bowl with shouldered, everted rim. Not illustrated.

R11.18 A wide-mouthed jar with everted, horizontal rim.

R11.19 A wide-mouthed jar with an everted, rising rim (cf. Corder and Sheppard 1930, no. 34).

R11.20 A wide-mouthed jar with everted, horizontal rim and internal groove, mid-late 4th century.

R11.21 A constricted-necked jar with undercut beaded rim.

R11.22 A small simple neckless jar with slight almost bead rim.

R11.23 A small jar with everted, rising rim.

R11.24 A small jar with everted, almost vertical rim.

R11.25 A small jar with everted, rising rim.

R11.26 A shouldered jar, possibly a BB copy.

R11.27 An everted rimmed jar, possibly a BB copy (cf. Gillam 1970, type 144).

R15.1 A simple dish with section narrowing towards rim (Hayes and Whitley 1950, types 1e-f).

R15.2 A bead rimmed dish with undercut rim.

R15.3 A constricted-necked jar/flagon with everted rim (Hayes and Whitley 1950, types 7b-c).

R15.4 A medium-mouthed carinated jar with vertical wall and everted rim, (Hayes and Whitley 1950, type 10b), 3rd century.

R15.5 A narrow necked jar with thin, straight, everted rim (Hayes and Whitley 1950, type 14).

R15.6 An everted rimmed jar with undercut, beaded rim.

R17.1 Jar with beaded internally grooved rim (Gillam 1970, type 151), early to mid-3rd century.

R31.1 A bowl with a beaded undercut rim (cf. Gillam 1970, type 225).

R31.2 A jar with a rising, everted, grooved rim.

R31.3 A lid with an outturned, thickened rim.

R31.4 A grooved rim dish.

R42.1 A constricted-necked jar/flagon with everted horizontal rim.

W3.1 A curving walled dish with a grooved rim.

Fig. 54

Fabric

W10.1 A Crambeck Dr 38 copy, Crambeck type 5b (Corder 1937), late 4th century. Not illustrated.

W10.2 A flanged bowl Dr 38 copy, form as Crambeck type 5a (Corder 1937), late 4th century.

W10.3 A dish with a cordoned rim, a variant of Crambeck type 9 (Corder 1937), mid-late 4th century.

W10.4 A beaded and flanged bowl (Corder 1928, nos. 74-6), late 4th century. Also a red-slipped example from LB/AML.

W10.5 A double flanged bowl rim of Crambeck type 8 form (Corder 1937), late 4th century.

W10.6 A variant of Crambeck type 9 (Gillam 1970, type 297), late 4th century.

W10.7 A wall-sided dish, a variant of Crambeck type 7, not a mortarium, (Corder 1937), mid-late 4th century.

W10.8 A small jar with everted, rising rim with red painted band on rim.

W10.9 A flanged mortarium with grooved upper flange, Crambeck type 6 (Corder 1937), 4th century, chiefly early to mid-4th century.

W10.10 A flanged mortarium, variant of Crambeck type 6 (Corder 1937), 4th century, chiefly early to mid-4th century.

W10.11 A wallsided mortarium, Crambeck type 7 (Corder 1937), later 4th century.

W10.12 A wall-sided mortarium with several grooves on top of wall, a variant of Crambeck type 7 (Corder 1937), late 4th century.

W10.13 A wall sided mortarium without bead rim or grooves, a variant of Crambeck type 7 (Corder 1937; Corder 1928, no. 129), late 4th century. Not illustrated.

W10.14 An unusual grooved hammerhead mortarium in Crambeck parchment ware, later 3rd to mid-4th century(?).

W10.15 A grooved hammerhead mortarium with slight bead with an incised wavy line on the bottom of the flange, probably Crambeck (cf. Corder 1928, no. 123), although a Nene Valley origin is not impossible (cf. Hartley 1960, fig. 3, nos. 10-1).

W10.16 A Crambeck type 8 mortarium (Corder 1937), late 4th century.

W10.17 A mortarium of Crambeck form 5 (Corder 1937), late 4th century.

W10.18 A variant of a Crambeck type 8 dish with the lower flange vertical or sloping inwards, late 4th century.

W10.19 A dish of Crambeck type 10a form (Corder 1937) with an internally beaded flange rim, late 4th century.

W10.20 A sub-hammerhead variant of a Crambeck type 6 mortarium with two grooves on the flange.

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THE GLASS

by Jennifer Price and Sally Cottam

The excavations at Beadlam produced 899 fragments of Roman glass, 559 from vessels, 316 from window panes and 24 from objects. There is a first-early second-century bangle fragment and a small group of second-third-century glass, but the majority of the vessels, window fragments and objects (just under 80%) could be associated with fourth-century activity at the villa. The assemblage is remarkable both for the information it provides about the range of vessels in use during the late Roman period and for the quantity of glass recovered. The Beadlam assemblage contains by far the largest quantity of fourth-century glass found at a rural site north of the Humber.

Most of the vessels from the villa are of types known elsewhere in Roman Britain, and many have been recognised from other sites in the region, such as York, Malton, Winterton villa and Dalton Parlours villa. There is an emphasis on drinking vessels, but jugs and bottles for serving and storage are also present. Some more unusual types of tableware were also found, notably a group of late Roman decorated mould-blown bowls (Nos.19-22) and at least two vessels with incised figured designs (Nos. 2 and 50). A number of questions about supply and distribution of glass in the region are prompted by the remarkable homogeneity in colour of much of the late Roman vessel glass, as well as by the presence of vessels of unusual colour and form.

Vessel Glass (Figs. 55-56)

(Note: the numbering of the vessels corresponds to the archive catalogue and hence the illustrations are not consecutive)

Second-Third-Century Vessels

The earliest vessels at Beadlam date from the second to mid-third centuries. This small group of colourless and blue green fragments (Nos. 3-18, 94-101 plus associated listed fragments) represents a minimum of 17 vessels, 12 of which are drinking vessels, plus two jugs, flasks or jars, and three bottles. The scarcity of second- and third-century tablewares in comparison with the fourth-century types discussed later, corresponds with the patterns of use indicated by the pottery forms found at Beadlam, which appear to show very limited activity at the site before the later second century, though the record may be biased in favour of late material as the late levels on the site received most attention during the excavations. It is noteworthy that the distribution of the second- to mid-third-century glass shows a considerable concentration in the northern and eastern areas of the villa complex. Of the 117 fragments which can be assigned to this period, 100 come from the Northern and Eastern Ranges.

Nos. 15-18 can be fairly confidently identified as drinking cups from the dimensions of the bases, but cannot be more specifically recognised as little of the body survives. No. 15 is a tubular base, possibly from a cylindrical cup similar to Nos. 10, 11 and 16 described in the following paragraph, and No. 18 is a simple concave base. No. 17 has a very narrow applied base, and the central pontil mark on the base indicates that the rim of the vessel was probably fire rounded.

The principal form of drinking cup of the later second-early third centuries was the colourless cylindrical cup with a fire rounded rim, tubular pushed-in base ring with a central circular trail, or double trailed base ring (Isings 1957 form 85b). At Beadlam, only three examples of the form were identified (Nos. 10, 11 and 16), contrasting strongly with numbers from other sites in the region. At Dalton Parlours, two or three examples came from an assemblage a quarter of the size of that from Beadlam (Price 1990a, 103 nos. 10-1, 13 fig. 78) and at Winterton, 9-12 colourless cups were found (Charlesworth 1976a, 248 nos. 15-20 figs.133-4). Numerous examples are known from York (Harden 1962, 137 H.G.202.6 fig. 88; Charlesworth 1976b, 16-7 nos. 49-51 fig. 13; Charlesworth 1978a, 57 no. 279 fig. 30; and unpublished) and a minimum of 61 examples came from Piercebridge, Co. Durham (unpublished). This notable scarcity is indicative of the general impression of limited glass use in the later second and third centuries at Beadlam, but it may also be influenced by the lack of intensive excavation below the upper stratified levels.

Nos. 8 and 9, which were found in Building 1 and may come from the same vessel, are convex body fragments decorated with small, round, pulled-out points. Two listed body fragments (9a and b) represent two further convex vessels with tooled decoration. Similar body fragments, sometimes with tooled ribs and lugs in combination with points, are known from a number of Romano-British sites, but, like these, are often too small for the form of the vessel to be positively identified. They are most likely to come from hemispherical cups with fire rounded rims and small thickened bases, although beakers and flasks are also sometimes decorated in this manner (eg. Wheeler and Wheeler 1936, 186 fig. 29 no. 26; Fremersdorf and Polonyi-Fremersdorf 1984, 26-7, 64-6 nos. 68-9 and 151-5).

Evidence from Britain and elsewhere in the western provinces indicates that they were primarily in use during the third century. For example, five hemispherical cups with tooled decoration came from burials at the cemetery at Brougham, dated between A.D. 220/30 and A.D. 270/80 (Cool 1990, 169-70, nos. 2-4) and a similarly decorated small bowl from

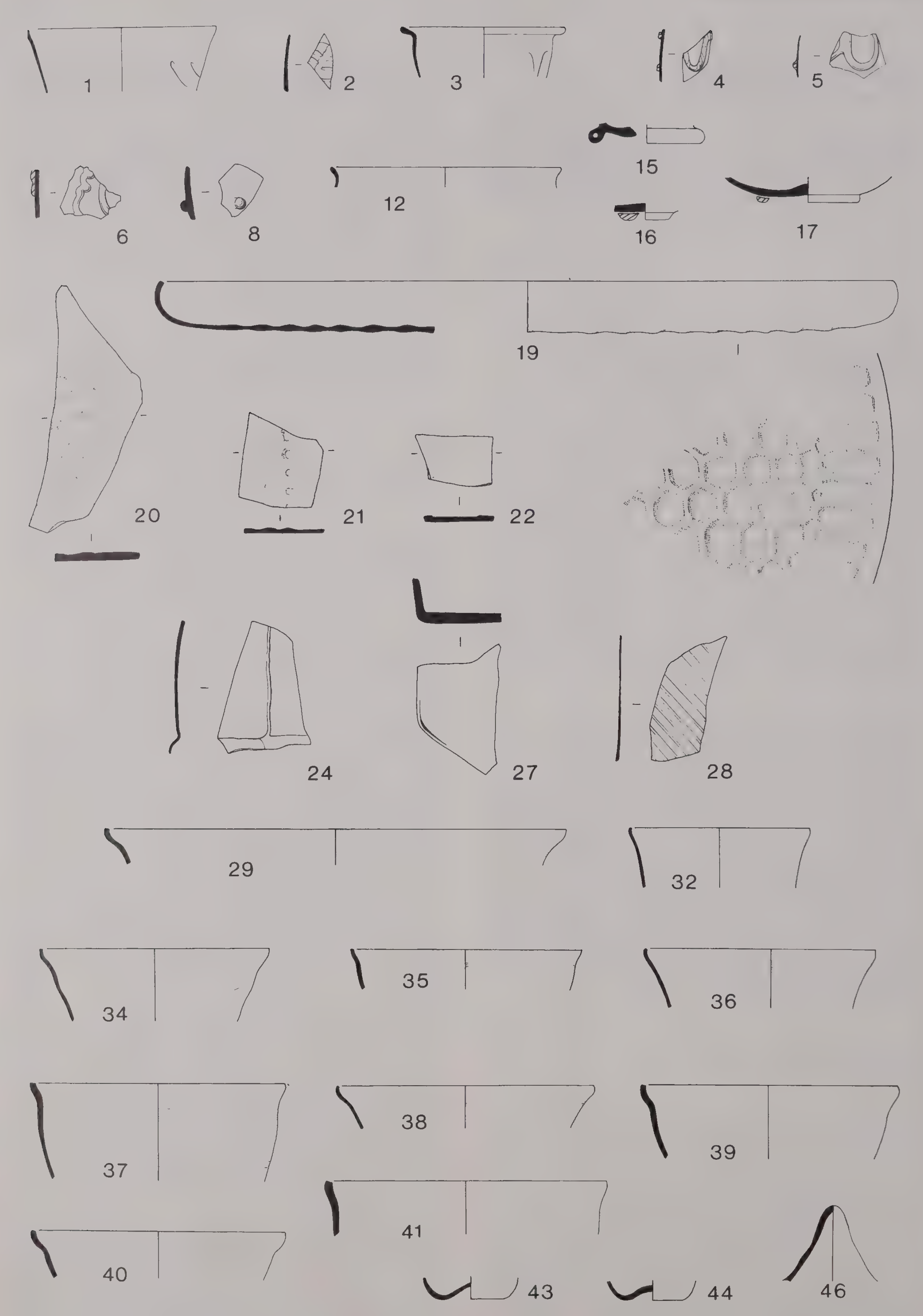


Fig. 55 The vessel glass; Nos. 1-46. Scale 1:2.

Sparsholt villa, Hampshire came from a context dated to after A.D. 270-95 (information from D. Allen). In northern and eastern England, body fragments are known from Dalton Parlours and Winterton villas (Price 1990a, 103 no. 8 fig. 78; Charlesworth 1976a, 249 no. 32 fig. 134) and at least four vessels came from South Shields (unpublished).

A greenish colourless fragment with an out-turned fire rounded rim (No. 12) may come either from a cup similar to those described above, or possibly from an undecorated example of the same period. Undecorated hemispherical cups are being noted with increasing frequency in Britain and are known from Dalton Parlours villa (Price 1990a, 101 no. 12 fig. 78), King Harry Lane, Verulamium (Price 1989a, 42 no. 280 fig. 26), Caerleon (Zienkiewicz 1992, 7, no. 21 fig. 2), Vindolanda (Price 1985, 207 no. 7 fig. 77), York (Charlesworth 1978a, 57 no. 177 fig. 30) and elsewhere.

No. 3 also has tooled decoration in the form of vertical ribs, and in this respect, and in the form of the rim, it resembles the cups discussed in connection with Nos. 8 and 9. However, No.1 has a more unusual body shape, coming from a straight sided cup or beaker, rather than a hemispherical vessel.

Nos. 13 and 14 come from two vessels with applied feet. The complete vessels, probably beakers or flasks in use during the late second and third centuries, would have had a short stem connecting the foot with the lower body (eg. Isings 1957, forms 86 and 93). Stemmed and footed vessels are not particularly common in Britain, and the precise vessel form can rarely be determined. A number of base fragments are known from sites in southern England, including Dorchester, Dorset (Cool and Price 1993, 162 nos. 66-7 fig. 86) and Lullingstone villa, where one was found in a late Antonine context (Cool and Price 1987, 112 and 131, nos. 350-1 fig. 54). Further north, trailed vessels with stems and applied feet, probably beakers, come from Aldborough (Charlesworth 1959, 54, pl. III no. 4) and Fishergate, York (unpublished). The Beadlam fragments can also be compared with bases on a number of complete beakers and flasks from burials in the western provinces, including examples from Cologne, Koblenz and Worms (Harden *et al* 1987, 124-6 no. 56, 132, 139 no. 61 and 67) and Strasbourg (Arveiller-Dulong and Arveiller 1985, 134 no. 299).

Four body fragments (Nos. 4-7) come from vessels decorated with colourless curving trails. The forms of the vessels cannot be identified, and little further can be said about no.7 except that the colour and decoration are indicative of a second-third-century date. Nos. 4-6 are more diagnostic. No. 4 has a narrow unmarvered trail marked with diagonal scoring, a technique usually called "snake-thread" decoration. Fragments of snake-thread glass with colourless and coloured trails dating to the later second and early third centuries have been discovered with increasing frequency on British sites, although only rarely do more than a few body fragments survive.

In the north of Britain, fragments are known from Dalton Parlours villa (Price 1990a, 99-105 no. 1 fig. 78), York (Harden 1962, 137 no. 153 fig.88), Aldborough, Piercebridge and South Shields (Charlesworth 1959, 54 fig. 10 nos. 8 and 10 and pl. 3 no.4 and unpublished), Malton, Birdoswald and Catterick (unpublished). Cups, beakers, flasks, and other forms with snake-thread decoration have been found in such quantity in burials in the Rhineland, particularly in and around Cologne, that they are usually considered to have been manufactured in that region (Fremersdorf 1959 *passim*).

The irregular waves of the trails on No. 6 resemble the late second-early third-century serpentiform snake-thread trails but have no evidence of diagonal scoring. A colourless cup with a ground rim, a cylindrical upper body and convex lower body decorated with similar tightly waving trails was found during excavations at Water Newton, and a lower body and base fragment from Winterton villa is also comparable (both unpublished). Further dating evidence is unavailable, but in view of the similarity with snake-thread decoration, these vessels can probably be dated to the later second-early third centuries.

Four blue/green vessels of the second-third centuries have also been catalogued (Nos. 94-97). There is one bowl with an out-turned tubular rim (No. 94), one jug or flask (No. 95) and two jugs or jars (Nos. 96-7). Blue/green bowls with tubular rims were produced in quantity in the first and second centuries. Later first- and second-century examples often have cylindrical upper bodies and vertical rims (Isings 1957, form 44a). The out-turned rim of No. 94 is more unusual, but a shallow blue/green bowl with a tubular base ring from Canterbury has a similar rim (Charlesworth and Price 1987, 223 no. 16 fig. 88) and other comparable rim fragments come from Colchester, Winchester and elsewhere (Cool and Price 1995, nos. 683-5 fig. 6.3, and unpublished). No. 95 is from a globular vessel, probably a jug, with shallow vertical ribs. Without the rim or base, the vessel cannot be identified securely. In the later first and early second century, globular jugs and jars were frequently decorated with vertical ribs, but this small-bodied vessel is more likely to be a second-third-century jug, perhaps similar to a blue/green globular spouted jug with vertical ribs found at Trier (Goethert-Polaschek 1977, 198-9 no. 1226 abb. 47, taf. 66).

Blue/green bottles (Nos. 99-101a), are very commonly found on sites occupied during the first and second centuries, frequently constituting between 30-60% of glass vessel assemblages of this date. Consequently, the small proportion of these vessels at Beadlam (4.8% of the vessel glass) suggests very limited use of glass at the site in the first-second centuries A.D. Where identified, all the pieces from Beadlam are from straight sided, mould-blown vessels, probably square bottles. These were by far the most common mould-blown bottle form in Britain and the rest of the Roman world and were produced as storage vessels for liquids and semi-liquids in the first and second centuries (Isings 1957, form 50). They have folded rims (No. 99), angular handles, and square bodies. The bases (Nos. 100-1) have raised decoration, usually concentric circles or other geometric designs, but less frequently letters, figures or other motifs. No. 100 may show part of the letter C, a letter which has been frequently noted on bottle bases in Britain, usually in combination with other letters. A tall square bottle from Coventina's Well, Carrawburgh on Hadrian's Wall and a rectangular bottle from the Museum of London have the letters CCCP on the base (Allason-Jones and McKay 1985, 39-40 no. 131; Charlesworth 1966, 34-4 fig. 15). There is a rectangular bottle from Colchester with the letters CCV (Thorpe 1935, pl.

IIa) and many other fragments with a raised C have been noted elsewhere in Britain (Frere and Tomlin 1991, 108-10).

Late Third-Fourth-Century Vessels

Cups and Bowls

Sixty-one fragments came from three or four fourth-century mould-blown bowls (Nos. 19-22). The fragments were found in sixteen different contexts across the site. Two bowls came from the Western Range (Building 2), and at least one came from the northern and eastern ranges (Buildings 1, 4 and 5). These have recently been discussed in more detail (Price and Cottam 1995).

No. 19 is represented by 58 strong yellow/green rim and body fragments. It is a wide shallow bowl with a slightly inward curving, cracked-off rim. The upper body is undecorated and lower body has a mould-blown design of short, closely set parallel godroons around an area of close-set hexagons forming a honeycomb pattern. All the fragments from this bowl came from the Northern and Eastern ranges. A difference in rim diameters on some of these fragments suggests that either the curve of the rim was irregular or that more than one bowl is represented. At least two further pale yellow/green shallow mould-blown bowls came from the Northern and Western Ranges of the villa (Nos. 20-2). No. 20 has long curving godroons on the body, radiating from a central circle containing a star, and Nos. 21-2 have short straight godroons which on No. 21 surround an area of curving motifs.

No mould seams can be seen on the bowl fragments, which indicates that they were blown into one piece moulds. In this respect, they differ considerably from first-century mould-blown cups and bowls which were produced in body moulds of two or more pieces, made of stone, pottery or perhaps metal. The mould-blown decoration on the outside surface of the bowls is matched in shallow relief on the inside wall. This can best be explained as resulting from a secondary inflation of the vessel into a plain mould, having first been blown into a decorated mould.

Fourth-century mould-blown bowls are not common, and only one other certain example, from Dorchester, Dorset (Cool and Henderson 1993) and two possible fragments, from Frocester Court villa, Gloucestershire and Winchester (Price 1979, 45 no. 46 fig. 18 and unpublished) are known from Britain. It is notable that all the previous finds come from sites in southern England and it is therefore rather remarkable that three should come from a single site in Yorkshire. The dating evidence for mould-blown bowls is sparse, but the fragment from Frocester Court villa was found in association with a floor dated *c.* A.D. 340.

The bowls from Beadlam cannot be exactly paralleled either in Britain or elsewhere in the Empire, but they possess features of form and decoration which can be related to other fourth-century mould-blown cups and bowls. A bowl formerly in the Kofler-Truninger Collection, is comparable to No. 19, although slightly deeper (Haberey 1966, 210 figs. 4-5). It has a curved rim, a short convex upper body decorated with vertical godroons and a honeycomb pattern on the lower body. Another bowl decorated with godroons and close-set hexagons now in the British Museum (Cummings 1980, 47 fig. 50) was found in Bonn. The form of the rim and body is similar to a smaller mould-blown bowl with rosette pattern from the Mithraeum of the church of Santa Prisca, Rome (Isings 1965, 516-7 fig. 452). The central circle on a mould-blown segmental bowl from Cologne can be compared with No. 20 (Fremersdorf 1961 taf. 131-2) and the bowl from Dorchester, mentioned above, which has most unusual inset polychrome cane sections set into mould-blown circular motifs.

Two other fourth-century vessel forms, hemispherical cups (Isings 1957, form 96) and conical beakers (Isings 1957, form 106) were also occasionally made in decorated moulds. Examples of both these forms are known from Britain. Hemispherical cups have come from York Minster and Fishbourne Bay, Isle of Wight (Price 1995a, 355 no. 14, fig. 142; Price and Cottam 1995, 240, fig. 21.4.1) and a conical beaker was found during excavations at Winchester (Price and Cottam 1995, 24, fig. 21.4.2).

There are a further three forms of fourth-century mould-blown vessels from Beadlam; all are bottles and all the fragments came from the Northern Range of the villa. Nos. 23-26 represent at least two examples of cylindrical bottles with zones of horizontal corrugations, blown into a two piece body mould (No. 24 retains part of a mould seam) with a separate base piece. These are known as barrel jugs, or often 'Frontinus' bottles, Frontinus being one of the names most frequently noted in relief on the base of these vessels, either in full or abbreviated. When complete, the bottles had folded rims, slightly funnel mouths, cylindrical necks, one or two angular ribbed handles, cylindrical decorated bodies and slightly concave bases.

Bottles of this form remained in production for a very long period of time (Isings 1957, form 89). Some blue/green barrel jugs with one handle are known from second- and third-century contexts, but the greenish colour of the Beadlam vessels indicates that they date to the fourth century. Many fragments have been found at a variety of late Romano-British occupation sites, including villas such as Winterton (unpublished) and Barnsley Park (Price 1982, 183 no. 45) and urban settlements such as Towcester (Price and Cool 1983, 123-4 nos. 57-60, fig. 48) and Winchester (unpublished). Their presence might therefore be expected in a fourth-century assemblage of this size. A few are known from burials, including a complete two-handled barrel jug from a burial probably dating to *c.* A.D. 360-80 at the late Roman cemetery at Butt Road, Colchester (Cool and Price 1995, 204-5 no. 2259). Others come from burials at Bex Hill, Milton-next-Sittingbourne, Kent (Payne 1874, 168, fig. 2), and London (Barber *et al* 1990, 9 pl. IVa).

Nos. 27-8 are fragments from hexagonal bottles. No. 28 is very thin walled, and is decorated with close-set diagonal corrugations. Decorated hexagonal bottles are not common in Britain, and they rarely occur in well-dated contexts. Complete bottles have been noted in late Roman burials on the continent, as at Krefeld-Gellup where two bottles came from burials of the first half of the fourth century (Pirling 1974, 79, taf. 40 nos. 9, 103 no. 5) and Bonn (Follmann-Schultz 1988,

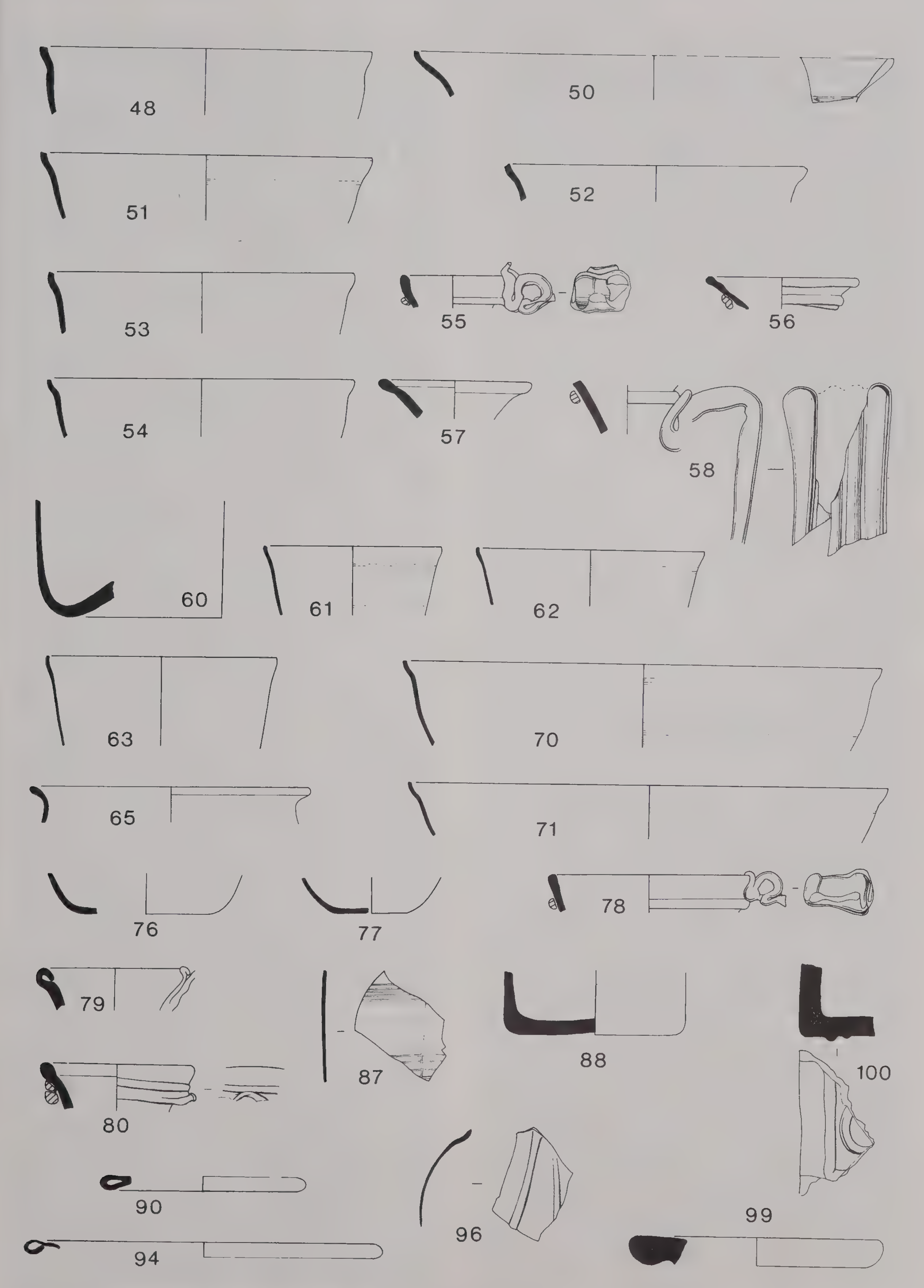


Fig. 56 The vessel glass; Nos. 48-100. Scale 1:2.

49 no. 139 taf. 15). These bottles have a cylindrical neck with a cracked-off rim, a hexagonal body, a slightly concave base and two 'dolphin' handles trailed onto the shoulder and neck. In Britain, the presence of a fragment in a third-century context at Winterton villa (unpublished) and evidence from Barnsley Park villa, where a fragment was found in contexts dated A.D. 275-315 (Price 1982, 183-4 nos. 46-7 fig. 60) indicates that they were already being produced by the late third century. Other fragments are known from Greyhound Yard, Dorchester (Cool and Price 1993, 167 no. 159 fig. 88), Colchester (Cool and Price 1995, 207 no. 2264, fig. 11.18), Caister-on- Sea (Price and Cool 1993, 147 no. 127 fig. 132) and Claydon Pike (unpublished). Hexagonal bottles without corrugations, such as No. 27 are unusual. The sharp corner angles indicate that it was blown into a mould, but it is very different from No. 28 in thickness, colour and quality. The pale green glass in which it was produced dates the vessel with certainty to the fourth century, but without closely dated parallels it is not possible to be more precise.

There is a very great quantity of late Roman beakers, cups and bowls at Beadlam. As might be expected, many belong to the commonly found conical and hemispherical forms with horizontal abrasion. A few drinking vessels are more unusual, being either produced in strong colours such as yellow/brown and very dark yellow/green, or decorated with figured and facet cutting, but nevertheless conical and hemispherical shapes are always dominant. In such a large assemblage it is notable that there are no beakers or cups decorated with coloured blobs. These are not exceptionally common, but are quite frequently found on late Roman sites, and are present in northern Britain at Corbridge and Carrawburgh (Charlesworth 1959, 50, fig. 8 no. 2) at Carlisle (Price 1990, 179 no. 74 fig. 164 MF. 2/79) and at Aldborough, Piercebridge and Thornbrough Farm, Catterick (unpublished). There do not seem to be any late Roman tubular rimmed bowls, or any trailed drinking vessels, such as the hemispherical cups found at Towcester (Price and Cool 1983, 120, nos. 19-22 fig.46) and Lankhills cemetery, Winchester (Harden 1979, 211-3 no. 385 fig. 27) although thick trails are present below the rim edge of several jugs (Nos. 55-56a, 58, 78, 80).

At least 16 examples of fourth-century conical beakers with cracked-off rims in bubbly pale green and yellow/green glass were noted (Nos. 1, 32-47, 61-4, 67-9) making these the most common single vessel form at Beadlam. Conical beakers are numerous on many fourth-century urban and rural sites in Roman Britain and elsewhere in the north western provinces (Isings 1957, form 106). When complete, these beakers have a curved or straight cracked-off rim, a tall conical body and a small concave base. The body is almost always decorated with horizontal abraded lines, or more occasionally with vertical indents or trails. Conical beakers appear to have been in use for a long period. Amongst the earliest in Britain is an example from a pit at Portchester Castle which contained coins dated at latest to A.D. 308-17 (Harden 1975, 371 no. 11 fig. 198) and conical beakers were also present in late fourth-early fifth-century burials at Lankhills cemetery, Winchester (Harden 1979, 214 nos. 391 and 530, fig.27). Nos. 43-5, 47 and 69 are base fragments from beakers. No. 46 may also be from a conical beaker, or possibly a jug or flask with an unusual, slightly irregular high kick in the centre of the base. The colour of the vessel suggests that it belongs to the fourth century, but a very similar base fragment from Lullingstone villa was recorded as coming from a late second-early third-century context (Cool and Price 1987, 121 and 137 no. 381 fig. 56), and another very high concave base comes from Frocester Court villa (Price 1979, 43 no. 28 fig. 17). The entire broken edge of No. 46 was grosed so that the fragment could be re-used, and small fractures in the top of the kicked base suggest that it may have been struck against a hard surface after breakage.

Most examples are decorated with horizontal abraded bands, either singly or in groups of two or three lines (Nos. 33, 67). Two beakers, Nos. 34 and 64 are more unusual, being decorated with indents. Indented conical bowls are quite frequently found in fourth-century contexts, but conical beakers with indents have not often been noted, at least in Roman Britain. Three or four examples came from occupation sites in Winchester (unpublished), and a beaker with indents and horizontal trails came from a burial dated to A.D. 370-90 at Lankhills cemetery, Winchester (Harden 1979, 215 no. 51 fig. 27). A late fourth-century burial at Épiais-Rhus (Val d'Oise) contained a well preserved indented conical beaker (Vanpeene 1993, 49-50 no. 081 pl. xviii) and others come from Trier and elsewhere in northern France and the Rhineland (Morin-Jean 1913, 141 fig. 191; Goethert-Polaschek 1977, 74, 80-1, nos. 312-3 and 359, tafn. 43 and 45).

No. 1 is similar in form to the conical beakers cited above, but has been produced in good quality colourless glass. On the upper body is a row of diagonal long oval facets, and the lower body may have had further facet-cut decoration. Facet cut conical beakers are fairly unusual in Britain, although a base fragment with diagonal facets is known from Cirencester (Shepherd 1986, 121 no. 638 fig. 87) and a colourless lower body and base fragment with diagonal facets from Verulamium probably comes from a similar vessel (Charlesworth 1984, 154 no. 87 fig. 62 no. 39). Other more complete and even intact vessels comparable to No. 1 have been noted elsewhere in the north-western provinces. Two beakers are known from Bonn, one of which has very similar narrow diagonal facets cut from top left to bottom right (Follmann-Schultz 1988, 85-6 nos. 293 and 297) and others come from elsewhere in the Rhineland (Fremersdorf 1967, nos. 127-136; Arveiller-Dulong and Arveiller 1985, 151-2 no. 338). A mid-fourth-century date for these vessels is supported by the discovery of a beaker in a burial of this period at Krefeld-Gellup (Pirling 1960, 84, pl. 12 no. 1).

Only two rim fragments (Nos. 65-66) come from pale green beakers with out-turned fire rounded rims. These have tall straight sided bodies tapering in gently either to a small concave base, or to a high diagonal tubular base ring. None of the small concave bases from Beadlam has a pontil mark, an indication that the complete beaker had a fire rounded rim, but two pale green diagonal tubular base rings (Nos. 90-1) might come from this form of beaker. Both base types are present on beakers from the late Roman hoard at Burgh Castle (Harden 1983, 82-3 nos. 85-9 fig. 37). Beakers with fire rounded rims occur on many fourth-century sites, and amongst the earliest are a number of examples from mid-fourth-cen-

tury contexts at Towcester (Price and Cool 1983, 122 nos. 40-44 fig. 47). They have been noted on late Roman urban sites such as The Lanes, Carlisle (Price and Cottam forthcoming, 249, I63, fig. 129), Colchester (Cool and Price 1995, 93 nos. 620-628, fig. 5.17) and Winchester (unpublished) and on rural sites, including Winterton villa (unpublished), Barton Court Farm, Abingdon (Price 1986, 4, no. 8) and Bradwell Roman villa (Price 1975, 12, nos. 1-3 fig. 33).

A minimum of ten convex sided drinking cups were noted. Most distinctive are the group of at least seven thick-walled hemispherical cups or small bowls with curved cracked-off rims. Very few such vessels in Roman Britain have been preserved to the extent that the full body profile can be determined. Much more common are rim and upper body fragments, but substantial parts of two of these vessels came from Burgh Castle (Harden 1983, 81-3 nos. 83-4 fig. 37). Rim fragments are known from Colchester (Cool and Price 1995, no. 562), Cirencester (Shepherd 1986, 120-1 nos. 626, 629, 633 and 636 figs. 86-7), Portchester Castle (Harden 1975, 371, nos. 9, 10a, 10c figs. 197-8) and Winchester (unpublished). Thick-walled hemispherical cups were produced in strong yellow/green glass, but unusually at Beadlam there are two yellow/brown examples (Nos. 29-30) and one very dark yellow/green fragment (No. 48).

The striking uniformity in the shade of the yellow/green vessels at Beadlam has already been commented upon in the introduction. Late Roman glass, despite having a range of distinctive pale green and yellow/green shades, is rarely this consistent within a large assemblage. The colour of glass vessels is dependant on a number of variables, including the source of the ingredients and the temperature of the furnace. The consistency of colour at Beadlam, and the presence of some highly unusual strongly coloured fourth-century vessels (such as Nos. 29-31 and 48), may relate to circumstances of manufacture and supply which differ from those of other late Roman villas in the region, where these features have not been noted. The Beadlam glass appears to be predominantly mid-late fourth century in character, and the glass of that period has yet to be analyzed in such quantity at any other rural site in East Yorkshire. Further investigation may reveal whether the observed colour conformity is a very localised phenomenon, or a feature of the region.

Nos. 76 and 77 may be the bases of the more common thin-walled hemispherical cups. It is surprising that only two possible examples of these cups should be present in such a large fourth-century assemblage. They were produced in the same colours as conical beakers described above, and have similar rims and decoration. Evidence from dated contexts at Frocester Court villa (Price 1979, 41 no. 8 fig. 16), Towcester (Price and Cool 1983, 119 nos. 13-25, fig. 46) and Lankhills cemetery, Winchester (Harden 1979, 62 and 385 fig. 27) indicates that they were in use from the late third century to at least the mid-fourth century. The presence of other vessels of probable mid-fourth-century date at Beadlam, such as the mould-blown bowls and the facet cut beaker suggests that this scarcity cannot be explained as simply a matter of chronology.

One convex body fragment, No. 2, probably comes from another hemispherical cup or bowl. The vessel was produced in high quality colourless glass, and has part of a facet-cut figured design. The fragment is so small that neither the exact shape of the vessel, nor the subject of the design can be determined. Several styles of facet-cutting were used on fourth-century hemispherical cups and bowls and conical beakers with figured scenes. These shallow, close-set facets are comparable with cutting on other vessels from Roman Britain and the north-western provinces. Hemispherical cups and bowls and conical beakers with this type of cutting have been found in a number of Rhineland burials, particularly in the region of Cologne, a possible location for the workshop or shops in which they were produced (Fremersdorf 1967, tafn. 246-69). The technique, often termed 'parallele schliff-furchen', was used to produce a variety of designs, including dancing figures and Biblical scenes.

In Roman Britain two bowls from Lullingstone villa have possible Christian scenes produced with this style of cutting (Cool and Price 1987, 114-7, 129-30 nos. 338-9) and a conical beaker from Frocester Court villa is decorated with repeated figures (Price 1979, 41 no. 4, fig.16, pl. iii). One of the Lullingstone fragments, from a pit dated A.D. 330-50 is amongst the earliest closely dated examples of these bowls. No. 2 is almost entirely covered with short facets, and may show part of a human figure in a draped tunic.

Two larger forms of fourth-century bowl were recognised. Nos. 50 and 70 are segmental bowls, and No. 49 is a truncated conical bowl. A further six rim and upper body fragments could not be precisely recognised although the convex upper bodies of Nos. 71-3 suggest that these too may be segmental bowls. Shallow segmental bowls, almost always decorated with horizontal abrasion, are not unusual, but No. 50 is of particular interest because is shows a small part of a scratched design on the upper body. The vessel has been produced with particular care in good quality glass. The rim is ground smooth rather than left unworked, as on many fourth-century bowls. The body would have been convex, and the base flattened or very slightly concave, as on bowls from Lullingstone villa (Cool and Price 1987, 118-9, 135 nos. 373-4 fig. 55), Chilgrove villa near Chichester (Down 1979, 163 nos. 7 and 9, figs. 56-7), Frocester Court Villa (Price 1979, 42 no. 12 fig. 16) and Portchester Castle (Harden 1975, 369 nos. 1 and 3 fig. 197). Examples from further north are more difficult to find, with no such bowls coming, for instance, from Winterton or Dalton Parlours villas. Few of the Romano-British pieces have come from securely dated contexts, but finds from elsewhere in the north-western provinces suggest that they were in use for a long period within the fourth century (Isings 1957, forms 116-7).

One of the most complete segmental bowls from Britain, which was found at Wint Hill, Somerset, has a hunting scene scratched freehand onto the outer surface with a burin (Harden 1960). No. 50 is comparable with this freehand decoration, often known as the 'Wint Hill' style. Fragments from Britain and substantially intact bowls from elsewhere in the north-western provinces show a range of scenes produced by this technique. Hunting scenes, episodes from the Bible and pagan cults are favourite subjects (Harden 1960; Fremersdorf 1967, tafn. 206-29). Figures and features are outlined with a single line, usually thickened by short diagonal lines against one edge. There is often a motto around the upper body of the

vessel, and the small area of scratching on No. 50 may be part of a letter. The few closely dated examples suggest that they were in use at the same period (mid-fourth century) as the figured bowls described above in connection with No. 2. In northern Britain, a fragment with a hunting scene came from Chesters fort, Northumberland (Charlesworth 1959, 46 fig. 7 no. 1). Many other examples from Britain and abroad are noted in connection with a fragment from Caister-on-Sea (Price and Cool 1993, 148 no. 48 fig. 130). Finds from Britain with 'parallele schliff-furchen', 'Wint Hill' and other styles of late Roman figured cutting have been examined recently (Price 1995b).

Truncated conical bowls have been found on many late Romano-British sites, and are often decorated with horizontal abrasion, shallow indents, or sometimes both, as on No. 49. In many respects they resemble the conical beakers described above, having curved cracked-off rims, straight sided bodies, tapering in to a small concave base. Again, many examples can be noted from rural and urban sites in southern England. Fewer are known from further north, but indented conical bowls come from Vindolanda (Price 1985, 210-1 no. 34), Piercebridge and Birdoswald (both unpublished).

Fourth-Century Jugs, Flasks and Bottles

At least eleven late Roman jugs, flasks and bottles can be recognised with certainty, but the total more probably lies between fifteen and twenty. Despite having a wide range of body shapes and methods of decoration, there is a remarkable consistency in the rims and necks of fourth-century jugs, and this phenomenon is illustrated by the fragments from Beadlam. All the recognised jugs have funnel mouths with out-turned rims. The rim edge is either fire rounded or more often rolled in and flattened. There is usually a thick horizontal trail below the rim edge (Nos. 55-6, 58, 78 and 80), a feature which appears to have originated in the third century, and sometimes another narrow spiral trail continues further down the neck (Nos. 56a and 58). The Beadlam jugs are produced in typical fourth-century pale green and yellow/greenish colours. Examples are known in other colours, such as the dark blue fourth-century biconical jug from York, but they are very unusual (Harden 1962, 140-1 H. 12 pl. 67). The rim and handle are more robust than the body, and are often the only part of a jug to be preserved in large enough fragments to be recognised. The handle usually has two or more ribs (Nos. 55-6, 59, 84 and 86) and the bases can be tubular or applied, with some vessels having a high diagonal tubular base like Nos. 90-1.

Without firm evidence for the particular form of the Beadlam jugs it is only possible to compare them generally with complete jugs from elsewhere in Roman Britain and the western provinces. Most jugs from Britain for which a complete profile survives are ovoid or biconical, but globular jugs, such as a trailed jug from Colchester, are also known (Cool and Price 1995, 147, no. 1161 fig. 8.11). Some jugs have optic-blown shallow diagonal corrugations on the body, as on a jug from a burial probably dating to A.D. 360-80 at the Butt Road cemetery, Colchester (*ibid*, no. 1160, fig. 8.11). Others are plain, except for the trail around the mouth, such as a jug from a very late fourth-early fifth-century burial at Lankhills cemetery, Winchester (Harden 1979, 217 no. 310 fig. 27). The open looped upper handle attachments of Nos. 55 and 78, and the flattened thumb-rest of No. 79 are typical features of funnel mouthed jugs, and can be compared with those on the handles on the two jugs from Colchester, the jugs from Lankhills and York mentioned above, and with a green undecorated ovoid jug, also from York (Harden 1962, 140, H.G. 44 pl. 67).

There are three cylindrical bottles, one yellow/green (No. 60) and two pale green (No. 87-8). The reeded handle fragment, No. 85 is also likely to come from a late Roman bottle. Reeded handles are not particularly common on late Roman vessels, but are sometimes found on cylindrical bottles, such as a one handled bottle from a burial from the second half of the fourth century at the Butt Road cemetery, Colchester, mentioned above (Cool and Price 1995, 203, no. 2257, fig. 11.15) and examples with geometric cutting from late Roman burials in Cologne and elsewhere in the Rhineland (Fremersdorf 1967, tafn. 153, 155-6 and 160-1). The largest bottle (No. 60) is represented by many fragments from six different contexts in the Eastern Range of the villa. Despite the quantity of fragments remaining from the vessel, it is not possible to establish its original height or to reconstruct the rim, neck and handle(s). The bottle is unusually thick-walled and has no evidence for horizontal abrasion or other decoration. It has a central pontil mark on the base, indicating where the vessel was held whilst the rim and handle(s) were formed.

Nos. 87-8 are narrower pale green bottles or flasks with horizontal abrasion. Tall one- and two-handled pale green and greenish colourless bottles with funnel mouths and trails below the rim edge are quite frequently noted in late Roman contexts in Britain and elsewhere (Isings 1957, forms 126-7). Two examples, one from Winchester and the other from Colchester have been mentioned above in connection with the reeded handle fragment, No. 85. But perhaps more closely comparable to Nos. 87-8 are two cylindrical flasks from a burial at York, which have similar horizontal decoration on the body (Harden 1962, 140 fig. 90 H.G. 146.3-4). These flasks are found in late third-fourth-century contexts in Britain and elsewhere (Isings 1957, form 102b). Another example from York came from a burial containing a coin dated to between A.D. 317-26 (Harden 1962, 140, fig. 89 H. 13), and three come from a fourth-century burial at Gravel Hill, Cambridgeshire (Liversidge 1977, 15-6, pl. 2).

Window Glass

Roman window glass was produced by two techniques, and fragments from panes of both types are present at Beadlam. There are 68 fragments of cast window glass in four colours. Cast glass is usually associated with first-third-century buildings, but it is probable that some cast panes continued in use during the fourth century. First-century cast window glass is predominantly blue/green, but other colours sometimes occur on later sites. There was at least one colourless fragment

from Winterton villa, for example and the large second century window glass assemblage from Stonea contained blue/green, colourless and greenish window panes (unpublished). Cast window glass was probably produced by pouring molten glass into trays, forming panes with a characteristic flat, rough underside, a glossy, slightly undulating upper surface and a rounded edge (Boon 1966).

Blown window glass is more common on sites mainly occupied within the fourth century. At Beadlam, as at other third- and fourth-century villa-sites such as Winterton and Frocester Court it considerably outnumbers cast window glass, with a ratio of over 4:1. Late Roman glass was generally blown as a long cylinder, which was then opened out to form a double glossy pane (Harden 1961), though there is some evidence that disc shaped panes were also produced, as at Chichester (Charlesworth 1978b, 270-2 no. 48 fig. 10.23), Carlisle (Price 1990b, 179 no. 79 fig. 164, MF.2 80) and elsewhere.

Table 11

Distribution of Window Glass

Area	Cast	Blown	Total
North	41	118	159
North/East	12	38	50
East	4	26	30
West	11	62	73
Total	68	244	312

Most of the window glass comes from the northern area of the villa. In every area there is more blown than cast window glass, which is to be expected in an assemblage where fourth-century vessel glass is so dominant.

Glass Objects (Fig. 57)

Beads

A total of seventeen beads of four different types were found at Beadlam. Small beads of various shapes are very frequently found on third-fourth-century sites, and green and blue are usually the most common colours. For the most part they appear as small numbers of individual beads, but occasionally fragmentary or complete necklaces are found. These are usually formed from short lengths of interlinking copper wire, each holding a single bead. Necklaces are known from a number of towns and villas including Water Newton and Witcombe Villa (both unpublished), and occur in late Roman burials at Lankhills cemetery, Winchester (Guido 1979), Dorchester, Dorset (Roach Smith 1847) and elsewhere. In northern England, fifteen small hexagonal beads with a fragment of cord were found at Dalton Parlours villa (Price 1990, 105 no. 43 fig. 79). At Beadlam, the seven short cylindrical green beads from a single context in Building 1 (No. 106) probably came from one necklace. Short cylindrical beads like these and Nos. 107-8, and longer examples such as No. 105 are very common on late Romano-British sites (Guido 1978, 95-6 fig. 37 nos. 4-5). They occur on two necklaces from Lankhills, Winchester (Guido 1979, 298-300, 315, 399) and short and long beads have been found at Chesters, Great Chesters and Housesteads (Guido 1978, 210, 212), and Birdoswald (unpublished).

No. 102 is a small blue ovoid bead, which has been produced by winding a narrow thread of glass around a central wire. It may be a segment from a longer bead, such as No. 104, which has also been wound. No. 103 is another blue segmented bead, produced by crimping a long cylindrical bead to produce more even globular segments (Guido 1978, 91-3 fig. 37 nos. 1-3). Segmented beads, often blue or green, are very common in the late Roman period, and have been found throughout Roman Britain, occurring in the north in a fourth-century context at Winterton villa (unpublished), at Catterick, on Hadrian's Wall and elsewhere (Guido 1978, 201-4).

There are one blue and three green biconical beads (Nos. 109-12). These are also very commonly noted on third- and fourth-century Romano-British sites (Guido 1978, 97-8, fig. 37 nos. 12-4). Six blue and green biconical beads are known from Winterton villa (Charlesworth 1976a, 245 no. 4 fig. 132 and unpublished) and others come from Dalton Parlours villa (Price 1990a, 105 nos. 36 and 39-41, fig. 79), Catterick, the Hadrian's Wall area and elsewhere (Guido 1978, 218-22).

Bangle

No. 113 is a fragment from a bangle of late first-early second-century date, which is decorated with twisted cords, trails and oval blobs or 'eyes'. Bangles with these features were classified as type 2 bangles by Kilbride-Jones (1938) and this classification has been followed by Stevenson (1956; 1976) and other writers. Fragments of type 2 bangles are common finds in Scotland and northern England, and many are known from Roman and native sites in east Yorkshire (Price 1988).

In comparison to many examples of type 2 bangles which have only a central horizontal twisted cord, the Beadlam fragment is elaborately decorated. The piece is quite closely comparable with pieces of dark blue bangles with three central tightly twisted cords and opaque white edge trails found at Verulamium (Hertfordshire), Edgerston, Newstead and Traprain Law (all in Scotland) and Malton (Price 1988, 345-7, 356, fig 16.3.40), but none of these has oval blobs or 'eyes'. The closest parallel appears to be a small fragment from Piercebridge (County Durham) which has dark blue capping over a blue/green core, a central dark blue and opaque white cord tightly twisted left-hand, two yellow-brown and opaque white cords tightly twisted right-hand, opaque white edge trails and one opaque yellow oval blob (Stevenson 1956, 220, fig 3.2).

The presence of this bangle fragment on a predominantly late Roman site is noteworthy. It is most unlikely to have survived as a complete bangle for two centuries or more, and the heavy wear at one end of the piece suggests that it has been reworked for secondary use. The object may perhaps have been brought to Beadlam as an attractive keepsake.

Hairpin

No. 114 is a fragment from a pale green glass hairpin with a rounded terminal. Glass hairpins are known from several Romano-British sites, but have not often been noted in northern Britain. Four fragments came from Frocester Court villa (Price 1979, 45 nos. 49-52 fig. 18) and two are known from South Shields fort (Allason-Jones and Miket 1984, 275 nos. 4.1-2 and fig.). They are also occasionally found around the head of the body in burials. Seven green and blue glass hairpins were found in a late Roman burial at Dorchester, Dorset (Roach Smith 1847, 33-5 fig. 3) and pale green pins came from a burial dated to after A.D. 320 at Butt Road, Colchester (Crummy 1983, 28 nos. 461-4, fig. 25).

Ring Inset

A translucent green rectangular object (No. 115) with a thin opaque yellow strip on its underside was found. The upper surface is ground and bevelled with the probable intention of imitating a gem stone. The object may be an inset from a ring, or from another item of jewellery or a decorative panel. The opaque yellow layer beneath adds lustre to the green glass, giving a closer resemblance to an emerald. A similar technique was used on a translucent blue/green circular ring bezel from Strageath which has an opaque red layer beneath (Price 1989b, 200 fig. 102 no. 6 pl. xl A). This method has also been observed on translucent green beads, which sometimes have an opaque yellow inner layer, such as two pentagonal beads from Malton (unpublished) and one from Whitton, South Wales (Price 1981, 161 no. 16 pl. xviii).

Counter

A single plano-convex counter (No. 116) was found. This is opaque white with red and green marvered spots. Decorated counters are known from a number of late Roman sites, usually as single finds, but they occasionally survive in sets for use in games. One of the earliest examples from Roman Britain comes from a third-century context at Winterton villa (unpublished). Many other examples have been noted in connection with a set of thirty decorated counters from the Temple-Mausoleum at Lullingstone villa (Cool and Price 1987, 139-141 no. 391 fig. 57). Another set from Roman Britain comes from a burial at Lankhills cemetery, Winchester (Clarke 1979, grave 51, 252-4, pl. 1b), and in the lower Rhineland a set is known from a burial dated to the first half of the fourth century at Krefeld-Gellep (Pirling 1966, farb. taf. B).

These counters were produced in black, red or opaque white glass with spots of blue, red, green and others colours. Detailed analysis of the spots on the counters from Lullingstone has not resulted in any clear pattern being established, and it may be that the coloured spots were purely decorative (Cool and Price 1987, 123).

The Glass Catalogue

Limitations of space preclude the publication of the full catalogue of 899 items. However, the descriptions for the fragments discussed in the text or illustrated in Figures 55-57 are given below. Some of the catalogue entries are for several fragments, all from the same vessel, but not joining. Where these entries are illustrated, it has often not been possible to draw all the fragments, as the vessel shape was not fully reconstructible. For Nos. 38, 51 and 70, only the rim fragment has been illustrated, and for No. 60 only the body and base fragments have been illustrated. Also, only three of the short green cylindrical beads of catalogue entry 106 have been drawn to save duplication.

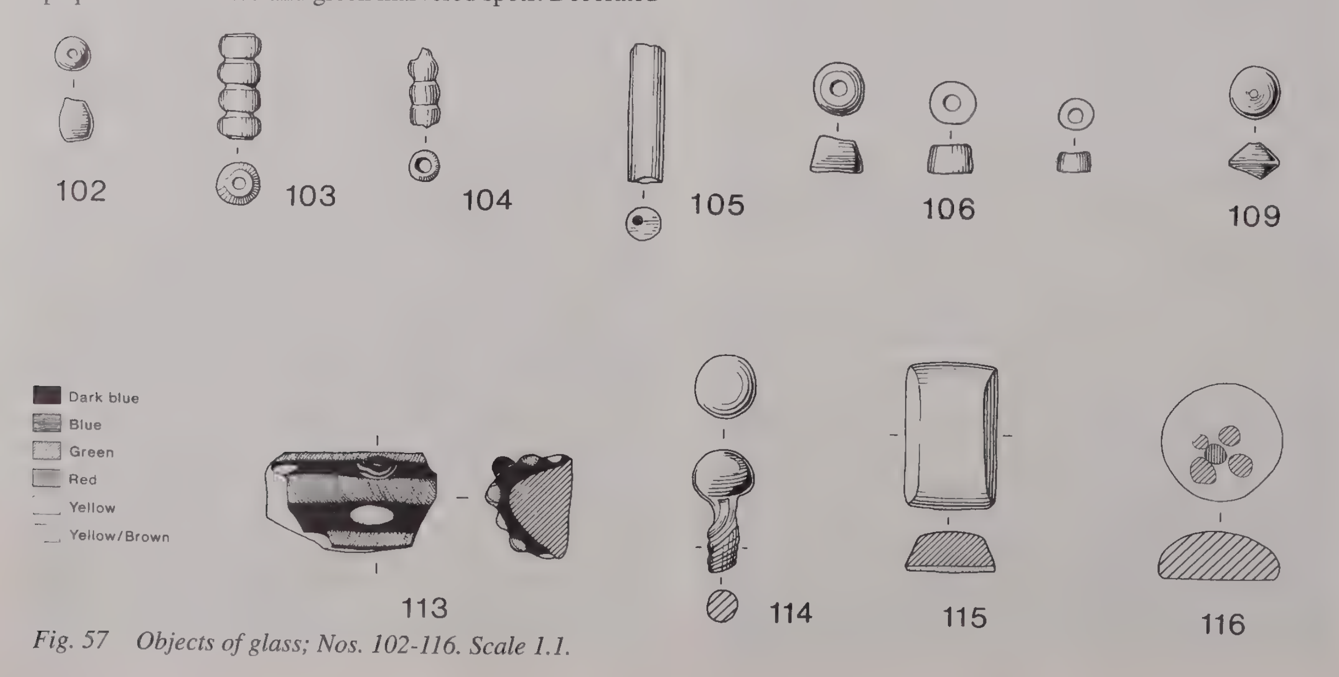


Fig. 57 Objects of glass; Nos. 102-116. Scale 1.1.

Abbreviations

PH - Present height
RD - Rim diameter
ND - Neck diameter
BD - Base diameter
D - Diameter
H - Height
L - Length
T - Thickness
W - Width
Dims - Dimensions
* - Illustrated
† - Mentioned in text

All measurements in millimetres

Vessels

Colourless

Blown

Cups and bowls

Decorated

1* Rim and body fragment, beaker. Strong yellowish tinge. Curved rim, edge cracked-off. Straight side tapering in. Three long diagonal rice-grain facets, side by side on upper body.
PH:25 RD:70 BD: T:0.5
LB/QF

2* Body fragment. Greenish tinge. Convex side. Wheel-cut feature with curved edge, crossed by a wide straight line and filled on either side of line by close set uneven wheel-cut grooves. Cut surfaces slightly pitted.
T:1 Dims: 22 x 10
LA/JK

3* Rim and upper body fragment, cup/beaker. Out turned rim, edge fire rounded. Straight side. Vertical rib, trace of further rib. Yellow/green horizontal streak at rim. Rim edge worn. Strain cracks.
PH:20 RD:65 T:0.7-2.5
LB/ACR

4* Body fragment. Slightly convex side. Unmarvered curving self-coloured trail, scored across diagonally.
T:0.5-1.5 Dims: 22 x 10
LB/AKV

5* Body fragment. Greenish tinge. Slightly convex side. Part of two curving loops of self-coloured trail. Heavy flaking iridescence.
T:0.5-3 Dims: 21 x 17.5
HB

6* Body fragment. Straight side. Two self-coloured trails, one curving, one with a tight wave. Occasional bubbles.
T:1.5-3.5 Dims: 23 x 20
LX/GT

7† Body fragment. Slightly convex side. Unmarvered curving self-coloured trail, trace of adjoining trail.
T:1.5-4 Dims: 15 x 11
LM/HP

8* Body fragment. Convex side. One pulled out point. Cloudy weathering.
T:1-4.5 Dims: 19 x 15
LB/CL

9† Body fragment. Convex side. One low pulled-out point. Outer surface pitted by weathering.
T:1-3 Dims: 19 x 12.5
LB/JK

Undecorated

10† Rim and upper body fragment, ?cup. Vertical rim, edge fire rounded. Straight side. Slightly heat distorted. Rim edge lightly worn, strain cracks.
PH:18 T:2.5-3
LA/AL

11† Rim and upper body fragment, cup. Vertical rim, edge fire rounded. Trace of straight side. Strain cracks.
PH:7.5 RD:100 T:1.5-3
LB/KU

12* Rim and upper body fragment, cup. Greenish tinge. Slightly out turned rim, edge fire rounded. Upper body expanding out. Rim heavily worn. Strain crack.
PH:8 RD:90 T:1-1.5
LB/AF

13† Base fragment, ?beaker/flask. Part of applied foot. Slightly concave, edge fire rounded. Edge slightly worn. Light iridescence.
PH:5 BD:50 T:0.5-2
LX/GC

14† Base fragment, ?beaker/flask. Part of applied foot. Almost horizontal, edge fire rounded. Elongated bubbles parallel with base edge. Light cloudy weathering. Strain cracks.
BD:60 T:2.5-3
LA/EY

15* Base fragment, ?cup. Greenish tinge. Tubular pushed-in base ring, concave base. Broken edge at junction with lower body grosed. Many tiny bubbles. Base worn. Strain cracks.
PH:7 BD:45 T:2.5-3.5
LX/NB

16* Base fragment, cup. Slightly concave base. Small central trailed coil. Pontil scar. Strain cracks.
PH:6.5 T:2.5 Dims: 24 x 21.5
LB/HW

17* Two fragments, body and base, cup. Convex body, narrow applied base ring, slightly concave base. Pontil scar in centre base. Yellow/green streak in base ring.
PH:12 BD:42 T:1.2-4
LX/DQ

18† Base fragment, ?cup/bowl. Greenish tinge. Trace of lower body, concave base with low central kick. Tiny bubbles, base edge worn. Strain cracks.
PH:6 BD:33 T:1.5-3
LA/FN

Late Roman Natural Colours

Mould-Blown

19* 58 fragments, joining in 5 groups, rim and body, wide shallow bowl. Yellow/green. Slightly inwards curving rim, edge cracked-off and lightly smoothed. Short convex upper body, strong carination. Wide, very slightly convex lower body. Upper body undecorated. Mould blown design on lower body with

edge zone of short, close-set parallel godroons. Main part of lower body filled with hexagons in quincunx forming honeycomb pattern. Bubbly. Underside of lower body heavily scratched in places. One fragment heat distorted.
PH:17 RD:260 BD: T:1.5-3
LC/DF,AA,AY,EY,BN,CJ,GP,EU LX/NU LM/BG,JO LB/HW,DY

20* Body fragment, bowl. Yellow/green. Wide, very slightly convex body. Mould blown design with central circle containing a 12 petalled star and surrounded by at least 19 long godroons curving anti-clockwise. Occasional bubbles. Lightly worn. Strain cracks.
T:2-3 Dims: 96 x 34
LA/DB

21* Body fragment, bowl. Yellow/green. Wide, very slightly convex body. Mould blown design in two concentric zones separated by an undecorated band. Outer zone of narrow close set godroons, inner zone of diagonal or spiral rounded ended motifs, sloping in a clockwise direction,. Lower surface scratched. Small bubbles. Patches of brownish weathering. Strain cracks.
T:1-2 Dims: 35 x 30.5
LA/JR

22* Body fragment, bowl. Yellow/green. Wide, very slightly curving body. Part of circular zone of long facets with rounded ends, radiating from narrow plain curving zone. Large bubble. Very scratched outside surface.
T:1.5-2 Dims: 30 x 20
LB/UO

23† Shoulder fragment, ?barrel jug. Pale green. Horizontal shoulder curving at edge of upper body. Bubbly, streaks of weathering, strain cracks.
PH:7 T:0.5-1.5
LB/SL

24* Two body fragments, barrel jug. Pale green. Cylindrical body, slightly convex side. Vertical mould seam. Part of undecorated zone and one horizontal corrugation. Bubbly, streaks of weathering.
PH:52 T:0.5-1.5 Body Diam:*c*.140
LB/UY

25† Two body fragments, barrel jug. Pale green. At least two horizontal corrugations. One edge ?grosed for re-use. Bubbly, streaks of weathering.
PH:12.5 T:1
LB/WQ

25a† Also one undecorated body fragment, pale green barrel jug. Bubbly.
T:1-1.5 Dims: 26 x 27
LB/UT

26† Three body fragments, greenish colourless, barrel jug. At least two horizontal corrugations. Bubbly, strain crack.
PH:12 T:1
LB/AY

27* Lower body and base fragment, hexagonal bottle. Pale green. Two straight sides. Very slightly concave base. Bubbly. Edge of base lightly worn. Streaks of weathering, strain cracks.
PH:17 T:2-4
LB/DR

28* Two joining body fragments, prismatic bottle. Greenish colourless. Straight side, trace of corner angle. 15 shallow diagonal corrugations. Small bubbles, elongated diagonally. Light iridescence. Strain cracks.
PH:50 T:0.5-1
BB/BA

Blown

Yellow/brown

29* Rim and upper body fragment, bowl. Curved rim, edge cracked-off. Upper body tapering in. Horizontal abraded band on upper body. Short diagonal scratches on rim.
PH:14 RD:180 T:1.5-2
LB/UT

30† Two joining rim and body fragments, bowl. Curved rim, edge missing. Slightly convex body. Two horizontal abraded bands on upper body. Some small bubbles.
T:1.5 Dims: 37 x 33
LA/CP LA/BT

31† Body fragment, slightly convex. Two horizontal abraded bands.
T:1.5 Dims: 30 x 16
LA/HT

Yellow/green

Beakers

32* Rim and body fragment, conical beaker. Very pale yellow/green. Curved rim, edge cracked-off. Straight side tapering in. Narrow horizontal band of abrasion at rim.
PH:35 RD:70 T:0.5-1
LB/SP

33† Upper body fragment, ?conical beaker. Very pale yellow/green. Trace of curved rim. Straight side tapering in. Three narrow horizontal abraded bands.
PH:17.5 T:1
LM/CD

34* Rim and body fragment, conical beaker. Curved rim, edge cracked-off. Straight side tapering in. Part of one shallow indent.
PH:33 RD:90 BD: T:1-1.5
LB/TP

35* Rim and body fragment, beaker. Curved rim, edge cracked-off. Slightly convex upper body tapering in. Horizontal abraded band below rim. Small bubbles, strain cracks.
PH:15 RD:90 T:1.5
LB/UU

36* Rim and body fragment, beaker. Curved rim, edge cracked-off. Straight side tapering in. Very light horizontal abraded band on upper body.
PH:25 RD:90 T:1
LB/TW

37* Four fragments, three joining, rim and body, beaker or small bowl. Curved rim, edge cracked-off. Slightly convex body tapering in. Horizontal abraded band on upper body below rim, further band on body. Bubbly, streaks of weathering.
PH:39 RD:100 T:1-2
LB/HU LB/LN

38* Two fragments, rim and body, beaker. Curved rim, edge cracked-off. Straight sided upper body, horizontal abraded band below rim. Slightly convex lower body with wide horizontal abraded band.
PH (rim fragment):18 RD:100
LB/TT

39* Rim and body fragment, beaker/small bowl. Curved rim, edge cracked-off unevenly. Slightly convex body tapering in. Narrow horizontal band of light wear below rim. Small specks and bubbles.
PH:27 RD:100 T:1.5-2
LB/UV

40* Rim and body fragment, beaker or small bowl. Curved rim, edge cracked-off. Slightly convex body tapering in. Surface below rim edge scratched. Small bubbles, streaks of weathering, strain cracks.
PH:20 RD:100 T:1.5-2
LB/KL

41* Rim and body fragment, beaker or small bowl. Curved rim, edge cracked-off. Slightly convex body tapering in. Small bubbles, streaks of weathering, strain cracks.
PH:19 RD:110 T:2-2.5
LB/UE

42† Rim and body fragment, beaker. Curved rim, edge cracked-off and lightly grosed. Upper body tapering in. Streaks of weathering, strain cracks.
RD:90
LB/LN

43* Lower body and base fragment, beaker. Straight side tapering in to small concave base with central point. Base edge worn. Small bubbles, streaks of weathering.
PH:10 BD:23 T:1.5-2
LB/UY

44* Lower body and base fragment, beaker. Pale yellow/green. Straight side, small concave base. Base edge lightly worn. Slightly heat distorted. Strain cracks.
PH:9 BD:24 T:1
LX/MK

45† Body and base, beaker. Very pale yellow/green. Straight side, tapering in to concave base. Horizontal abraded line on lower body. Base edge worn. Strain cracks.
PH:20 BD:40 T:1-1.5
LB/TG

46* Base fragment, ?beaker/jug. Very pale yellow/green. Concave base with high central kick. Trace of edge of base. All edges grosed for re-use. Bubbly. Patchy iridescence.
PH:29 BD:*c*.40 T:1-2
LC/EH

47† Lower body and base edge, ?cup/beaker. Pale yellow/green. Side tapering in, edge of base. Base edge lightly worn.
PH:8 T:1.5
LA/CW

Bowls

48* Rim and body fragment, bowl. Deep yellow/green. Curved rim, edge cracked-off. Thick walled slightly convex upper body tapering in. Strain crack.
PH:26.5 RD:125 T:2-3
LB/YM

49† Rim and body fragment, bowl. Curved rim, edge missing. Slightly convex upper body tapering. Two horizontal abraded bands, edge of shallow indent.
T:1 Body Diam:*c*.200
LB/DD

50* Two joining fragments, rim and body, segmental bowl. Very pale yellow/green. Curved rim, edge cracked-off and ground smooth. Straight side tapering in. One horizontal abraded band at rim, one on upper body. On body, horizontal scratched line and diagonal line. Light scratches.
PH:20 RD:190 T:2
BA/AA

51* Six fragments, two joining, rim and body, bowl. Curved rim, edge cracked-off. Slightly convex body tapering in. Horizontal abraded band at rim and on upper body. Further band on body. Small specks and bubbles.
PH:26 RD:130 T:1-2
LB/TP LB/WX

52* Two fragments, rim and body, bowl. Curved rim, edge cracked-off. Slightly convex body, tapering in. Light horizontal abrasion at rim edge. Small bubbles, streaks of weathering, strain cracks.
PH:15 RD:120 T:1.5-2.5
LB/UU

53* Rim and body fragment, small bowl. Curved rim, edge cracked-off. Slightly convex upper body tapering in. Small bubbles, streaks of weathering, strain cracks.
PH:23 RD:120 T:1.5-2
LB/UB

54* Rim and body fragment, bowl. Curved rim, edge cracked-off. Slightly convex body tapering in. Narrow horizontal band of wear below rim. Small specks and bubbles.
PH:23 RD:120 T:1-2
LB/UV

Jugs, Flasks and Bottles

55* Rim and handle fragment, jug. Slightly curved rim, edge rolled-in and smoothed. Funnel mouth tapering in. Thick horizontal trail below rim edge. Ribbon handle with three broad ribs and looped and folded upper attachment joined to mouth and rim edge. Clay inclusion in handle. Small elongated horizontal bubbles in mouth. Light streaks of weathering.
PH:20 RD:*c*.40 T:2-3
LB/SS

56* Rim fragment, jug/flask/bottle. Flared rim, edge rolled-in. Funnel mouth. Thick horizontal trail applied below rim, ends overlapping. Streaks of weathering.
PH:14 RD:55 T:1.5-4.5
LA/EC

56a† Neck fragment, jug/flask. lower part of funnel mouth tapering in. Cylindrical neck. Two narrow horizontal trails. Strain cracks.
PH:10 T:1 Neck diam: 35-40
LA/EK

57* Rim fragment, jug/flask. Flared rim, edge rolled-in and flattened. Funnel mouth tapering in. Diagonal elongated bubbles in mouth. Streaks of weathering.
PH:15 RD:55-60 T:3-4
LB/LK

58* Three fragments, mouth, neck and handle, jug. Funnel mouth, rim edge missing. One thick horizontal trail and one narrow close set around mouth. Angular handle with folded attachment joined to mouth and neck. Two prominent vertical edge ribs on handle and at least three further vertical ribs. Many elongated bubbles in mouth and handle. Edge ribs lightly worn.
PH:66 T:1.5-7.5
LM/AA,BO LB/UO

59† Handle and shoulder fragment, ?jug/bottle. Lower part of handle with at least two vertical ribs. Plain lower handle attachment, tooled at junction with horizontal shoulder. Slightly melted. Light weathered streaks.
PH:20 T:3-4
LC/FM

60* Fifty neck, shoulder body and base fragments, 8 joining in 4 groups, cylindrical bottle. Cylindrical neck, horizontal shoulder curving at edge. Straight side, concave base with central pontil mark. Trace of handle applied to shoulder. Many specks and small bubbles. Light scratches on body. Base edge worn.
(2 joining body and base fragments) PH:47 BD:120-130 T:1-6
LC/DS,DF,GP,CJ,AY,EY

Pale Green/Greenish Colourless

Beakers

61* Ten fragments, two joining, rim and body, conical beaker. Curved rim, edge cracked-off. Straight side tapering in. Two narrow horizontal abraded bands, one below rim, one on upper body. Patchy brown flakes of weathering. Strain cracks.
PH (rim fragment):26 RD:70 T:1
LB/QJ

62* Five fragments, two joining, rim and body, conical beaker. Curved rim, edge cracked-off unevenly. Straight side tapering in. Three horizontal lightly abraded bands, one below rim, two on body. Streaks of weathering.
PH (2 joining body frags.):39 RD:90 T:1
LB/UB

63* Rim and upper body fragment, conical beaker. Curved rim, edge cracked-off. Straight side tapering in. Horizontal abraded band below rim. Streaks of weathering.
PH:24 RD:90 T:1
LA/CW

64† Body fragment, yellow tinge. Part of one shallow indent. Tiny specks and bubbles.
T:0.5 Dims: 40 x 19
LX/MC

65* Rim and upper body fragment, ?cylindrical or conical beaker. Out-turned rim, edge fire rounded. Straight side. Horizontal elongated bubbles, one large, at rim. Streaks of weathering.
PH:15 RD:110 T:1.5-2.5
LB/UY

66† Rim and upper body fragment, ?cylindrical or conical beaker. Out-turned rim, slightly uneven fire rounded edge. Straight side. Horizontal elongated bubbles. Strain cracks.
PH:10 RD:110 T:1.5-2.5
LB/UV

67† Rim and body fragment, conical beaker. Curved rim, edge cracked-off. Straight side tapering in. Streaks of weathering. Strain cracks.
PH:20.5 RD:90 T:1.5
LB/DY

69† Two lower body and base fragments, conical beaker. Straight side tapering in. Slightly concave base. Tiny bubbles, strain cracks.
PH:12 BD:40 T:1
LX/MX

Cups/bowls

70* Six fragments, rim and body, bowl. Curved rim, edge cracked-off. Slightly convex side tapering in. Horizontal abraded band below rim, three further bands on body. Tiny bubbles. Patches and streaks of weathering. Strain cracks.
PH:31 RD:190 T:1.5
LB/AEN

71* Rim and upper body fragment, bowl. Curved rim, edge cracked-off. Slightly convex side tapering in. Horizontal lightly abraded band below rim. Light scratches at rim edge. Tiny bubbles.
PH:21 RD:*c*.190 T:1.5
LB/TT

72† Rim and body fragment, bowl. Curved rim, edge missing. Slightly convex side tapering in. Horizontal abraded band below rim. Tiny bubbles. Strain crack.
Dims: 26.5 x 20.5 T:1
LB/BE

73† Rim and body fragment, ?bowl. Curved rim, edge cracked-off. Slightly convex side tapering in. Horizontal abraded band below rim. Bubbles. Strain cracks.
PH:16 T:1
LB/UV

76* Lower body and base fragment, cup/bowl. Greenish tinge. Slightly convex lower body tapering in to flat base. Base edge slightly worn, lower body scratched.
PH:16 BD:*c*.30 T:1-1.5
LB/UV

77* Lower body and base fragment, cup. Pale yellowish tinge. Convex lower body, flat base. Base edge lightly worn.
PH:18 BD:*c*.25 T:1.5-2
LB/TY

Jugs, Flasks and Bottles

78* Rim and handle fragment, jug. Flared rim, edge fire rounded. Funnel mouth. Thick horizontal trail applied below rim edge. Ribbon handle with two prominent edge ribs with looped and folded upper attachment joined to trail and rim. Many small bubbles, elongated in handle and parallel to rim edge. Strain cracks.
PH:16 RD:*c*.80 T:2.5-3
LB/CL

79* Rim and handle fragment, jug. Flared rim, edge bent in and down and flattened. Funnel mouth. Folded upper handle attachment, joined at rim and mouth, and tooled. Many elongated bubbles in handle. Strain cracks.
PH:12 RD:*c*.50
LB/UO

80* Five fragments, three joining, rim, neck, handle and shoulder, jug or bottle. Funnel mouth, edge rolled-in and flattened. Thick horizontal unmarvered trail applied below rim edge. Trace of upper handle attachment, joined to trail. Horizontal shoulder, curving at edge. Small bubbles.
PH (Rim fragment):18 RD:60 T:1.5-5.5
LB/UU LM/LQ LX/NU

84† Two joining handle fragments, jug. Ribbon handle with at least four ribs. Part of folded upper attachment. Elongated bubbles. Strain cracks.
T:1.5-6 Dims: 23 x 31.5
LM/AS

85† Two handle fragments, jug or bottle. Reeded handle with at least seven shallow ribs. Fractured by heat.
PH:23 T:3-3.5
LM/LL

86† Handle and shoulder fragment, jug or bottle. Ribbon handle, widening to plain lower attachment, applied to slightly curving shoulder. Slight evidence for shallow ribs on handle.
PH:14 T:2
LM/KP

87* Nine fragments, two joining, shoulder and body, cylindrical

flask/bottle. Horizontal shoulder curving at edge. Straight side. At least two wide bands of light horizontal abrasion and one single horizontal abraded line. Uneven vertical abraded line. Tiny specks and bubbles. Strain cracks.
PH:42 T:1-1.5 Body Diam:90
BB/BA

88* Lower body and base fragment, cylindrical bottle. Straight side, flat base. Horizontal abraded band on lower body, with further light horizontal abrasion above. Base edge worn. Cloudy weathering. Strain cracks.
PH:25 BD:74 T:3-7
LX/LA

90* Base fragment. Out-splayed tubular pushed-in base ring. Edge lightly worn. Strain cracks.
PH:6 BD:75 T:1.5
LC/BA

91† Base fragment. Out-splayed pushed-in foot, part of hollow tubular base ring at edge.
T:1.5 Dims: 24 x 11
LB/UV

Blue/Green

94* Two joining fragments, rim and body, bowl. Out-splayed, horizontal, tubular rim, edge bent down and in. Upper body tapering in. Horizontal elongated bubbles in upper body, small bubbly streaks in rim.
PH:5.5 RD:140 T:1-1.5
LB/AO

95† Fragment, narrow cylindrical neck. Elongated bubbles, vertical patch of light scratches.
PH:25 T:3
LB/JM

96* Convex body fragment, jug/jar. Trace of constriction. Two narrow vertical ribs. Light weathering, strain cracks.
PH:37 T:0.5-2
LB/CG

97† Lower body and base fragment, jug/jar. Lower body tapering in to open pushed-in base. Base edge lightly worn.
PH:15 BD:*c*.80 T:2
LB/AAK

98† Base fragment. Slightly concave base, thickening towards centre. Base edge very lightly worn.
T:2-4 Dims: 15 x 12
LX/NR

Bottles

99* Rim fragment, ?bottle. Horizontal folded rim, edge bent out, up, in and flattened. ?Grosed at edge of neck. Upper surfaces of rim very worn.
PH:12 RD:100
LB/VA

100* Body and base fragment. One straight side. Flat base. Raised base design; straight moulding parallel with side with 90° angle, containing part of circular motif, possibly part of letter C. Faint second impression of motif on slightly different alignment. Base lightly worn, surface of base crushed.
PH:31 T:4-11
LX/BU

101† Base fragment. Flat base. Raised base design; at least three concentric circles. Base worn and scratched.
T:3.5-5 Dims: 35 x 29 Diam. of middle circle:*c*.70
LB/QH

Objects

Beads

102* Ovoid bead. Translucent mid-blue; wound.
W:2.5-4.5 L:5 D Perforation:1.5
LM/CS

103* Segmented tubular bead. Translucent dark blue. Four pronounced, regularly spaced annular segments. Small elongated bubbles.
L:14 D:4-5.5 D perforation:2
LX/LG

104* Segmented tubular bead. Semi-translucent mid-blue. ?Wound. Three segments. Tapering in slightly at one end.
L:10.5 D:3-4 D perforation:2-2.5
LM/JE

105* Long cylindrical bead. Translucent green. Longitudinal striations.
L:18 D:4.5 D perforation:1.5
LM/CL

106* Seven short cylindrical beads. Semi-translucent mid green. Two tapering in slightly at one end.

L:2.5 D:4.5 D perforation:2
L:3 D:4.7-5 D perforation:2.5
L:3 D:5.3 D perforation:2
L:3.3 D:5.7-6 D perforation:2.5
L:3-3.5 D:6.5-7 D perforation:2.5
L:3.5 D:5.5-5.7 D perforation:3
L:4.5 D:6.5-7 D perforation:2.5
LB/KG

107† Short cylindrical bead. Semi-translucent pale green.
L:3.7 D:4.8-5.6 D perforation:1.5-2
LB/AZ

108† Short cylindrical bead. Semi-translucent pale green, blue tinge.
L:2.5-3 D:5.5-6 D perforation:2-2.5
LX/FM

109* Biconical bead. Translucent dark blue. Strain crack.
L:4.5 D:6.5-7 D perforation:1-2
LA/DO

110† Small biconical bead. Semi-translucent mid green.Small chip missing from edge.
L:2 D:4.5 D perforation:1.5
LA/AB

111† Fragment, *c*.50%, small biconical bead. Semi-translucent mid green. Surface chipped.
L:2 D:*c*.4 D perforation:0.5
LB/PY

112† Four joining fragments, small biconical bead. Semi-translucent mid green.
L:2 D:4 D perforation:0.5
LB/RR

Bangle

113* Fragment, *c*.10%, bangle. Plano-convex cross-section. Blue/green inner core, with dark blue outer layer. Three tightly twisted horizontal opaque white and dark yellow/brown cords, central cord twisted left hand, outer cords twisted right hand.

Narrow horizontal opaque white trails at each edge. Blue and opaque white spiral unmarvered blob and two opaque yellow unmarvered blobs between cords. Slightly heat distorted. Apex worn. One end heavily chipped and worn.
D (internal):*c*.60 H:11 W:13
LM/CH

Hairpin

114* Fragment, hairpin. Pale green. Globular terminal, rod with circular section, twisted left-hand. Black streaks, bubble in terminal.
L:17 D:2.5-8.5
LA/JC

Inset

115* Complete rectangular inset ?from ring. Translucent dark green with thin opaque yellow layer underneath. Shorter sides very slightly convex curved. Bevelled edges. Strain cracks.
Dims:20 x 12.3 T:5
LB/CQ

Counter

116* Complete plano-convex counter. Opaque white with opaque red blob surrounded by four opaque green circular blobs marvered into upper surface. Black inclusion on lower surface. Lower surface worn. Surfaces roughened by weathering.
H:6 D:15.5-16
LB/JT

THE MOSAIC

by David S. Neal

Introduction

The Roman mosaic from Beadlam (Frontispiece and Fig. 16) was discovered in 1969 and occupied Room 2, Building 1. It had been considerably damaged by the collapse of a channelled hypocaust, the furnace of which was situated outside the west wall; the damage resulted in the mosaic having a scar 0.60-0.80m wide almost the full length of the room and a wider scar towards the west end possibly indicating where a side channel once extended to box-flues in the north wall (Fig. 15). Some damage to the pavement also occurred in antiquity since mortar repairs were noted on either side of the flue in the centre of the room and a smaller patch towards the east end; the surface of the mosaic had also been burnt either as a result of hearths or the prolonged location of a brazier. Following the excavation in 1969 the mosaic was carefully backfilled and re-exposed in 1974 and lifted by the staff of Art Pavements Ltd. The mosaic has not been consolidated and is preserved in sections in the English Heritage artefact store at Helmsley.

Description

The room measured 6.47m long by 4.11m wide; its mosaic, excluding all coarse tessellated borders, measures 4.23m by 2.54m. It has four colours; fine white limestone, grey lias, red tesserae made from smashed roofing tiles and a light brown used as a substitute for yellow. There are approximately 12 fine tesserae and 7 coarse tesserae to every 0.20m.

Its overall scheme is divided into three fields, a central square flanked by large rectangles. The central field has an all-over nine 'panel' grid of swastika-meander developing staggered squares at the four axis; they are filled with open squares of guilloche with the braids alternating grey, red, red, and white and grey, light brown, light brown and white. In the only square to survive are four small grey L-shapes set in each of the angles and with a cross motif in the centre; it is likely however, that similar decoration adorned the missing panels. To the north and south of the meander pattern are long strips of guilloche also with the braids alternating and in the same colours.

The large rectangles to the east and west of the main design are bordered with four-strand guilloche, without alternating braids, in grey, red, light brown and white. However, the guilloche in the panel to the east is incorrectly worked with the red band placed between the white and light brown. Within the rectangle to the east is a narrow red stripe surrounded by a band of in-turned grey stepped triangles; the decoration of the more fragmentary west panel is the same, only it has a grey and not a red central stripe.

Bordering the three panels is a band of fine white tesserae surrounded in turn by a band of coarse out-turned red stepped triangles on a white ground, a band of red three tesserae wide, a band of creamy-grey three tesserae wide, another band of red of the same width and finally a broad border of coarse creamy grey tesserae which extended up to the face of the walls. This border varies in width; on the north and south it is 0.35m wide, to the east 0.55m wide and to the west, on the opposite side to the entrance, 0.87m wide. The reason for providing a wider border on this side was possibly to allow space for couches so the design was not obscured by furniture.

Discussion

Although the mosaic is dated firmly to the fourth century, on stylistic grounds the arrangement of staggered squares and meander used in a nine 'panel' formation is a design more common in the later second century (although used throughout the Roman period as an all-over pattern such as occurring on a mosaic from Building XXVII, 2, Room 8, from Verulamium (Neal 1981, mosaic 74) dated to the late fourth century). It occurs, for example, on a pavement from Verulamium (Wheeler and Wheeler 1936, pl. xlv) dated *c.* A.D. 160-90, and at Chichester (Neal 1981, no. 20) on a pavement of comparable date. The squares on these pavements, however, contain rosettes. A pavement from North Street,

Colchester (Benham 1884, pl. facing p. 251), may also be quoted. The writer knows of no certain fourth-century examples of this scheme except possibly for a pavement from South Street, Dorchester (Hutchins 1863, fig. facing p. 692) with a staggered arrangement of at least six squares and meanders. A distinction between the mosaic under discussion and the examples quoted is that the arrangement of squares and meander is reversed; the squares no longer occupy the corners and centrepiece.

However, although the meander pattern used in this way may have been out of fashion by the fourth century the overall arrangement of the scheme with a square flanked by rectangles can be paralleled on many other fourth century mosaics in the region giving rise to the possibility that these examples represent the work of a local *officina*. For example, a mosaic discovered in 1941 at Brantingham, had a central square containing a roundel occupied by a fan-like motif (Neal 1981, fig. 88). On opposite sides of the square were rectangular panels each subdivided and containing chequers and guilloche squares surrounded by inturned stepped triangles; the more elaborate Tyche mosaic (Neal 1981, mosaic 12) from the same site is another example. These and other mosaics from Brantingham are believed to have been carried out by the same mosaicists and are dated by pottery and a coin of A.D. 330+ to the second quarter of the fourth century (Stead *et al* 1973, 89).

Again, the general scheme is also to be found at Malton in a mosaic discovered there during excavations carried out between 1949-52 (Mitchelson 1963-6, pl. ix). On this example the main square was occupied by a pair of interlaced squares and the flanking rectangles sub-divided into three panels with a figure of a Season in square panels at either end (with each of the Four Seasons in the angles of the overall pavement) and a hunting dog within a semi-circle in between. Apart from the overall scheme there are no stylistic similarities between the pavements but there can be little doubt that it represents the work of the same mosaicist who laid the Brantingham mosaics and also to be dated therefore from the second quarter of the fourth century.

The closest example to the pavement under discussion, however, is a mosaic discovered in 1745 at Hovingham six miles to the south. Its engraving gives the overall dimensions as 8ft by 15ft 10ins (2.44m by 4.83m), about the same width, but slightly longer, than the Beadlam pavement. Although less than half the pavement survived, its overall scheme appears to have featured a row of three equal sized square panels, the surviving panel at one end being occupied by a meander pattern. An identical pattern probably existed at the opposite end while traces of guilloche in the central panel either formed a border to another pattern or to have come from a large guilloche mat.

Conclusions

There is no firm dating evidence for the mosaic. On the basis of it possibly being the work of mosaicists who laid other mosaics in the area, particularly those at Brantingham, it is possible to suggest a date no earlier than *c*. A.D. 330+. However, the workmanship is a little coarse and poorly worked - for example the anomaly in the guilloche - and the inability on the part of the mosaicist to join correctly the meander pattern - hence a date for its construction may be closer to A.D. 350 since there is a general trend in the later fourth century for poorer work. It must also be remembered that it was patched with mortar in antiquity before being cut by a corn-drying or malting oven. Therefore, it would appear to have had considerable wear before conversions took place. This is further supported by the presence of brazier burns over the floor which are also likely to have occurred *before* the oven was built.

Petrology of the Tesserae

by D.F. Williams

Grey	Dark grey fine-grained limestone. Almost certainly Jurassic and very probably obtained fairly locally.
Light brown	Lightish brown, even-grained, medium sized, somewhat micaceous compact flaggy Coal Measures sandstone. Perhaps from the West Riding of Yorkshire or Durham.
White	White, fine-grained chalky looking limestone. Possibly Hildenley Stone which in more recent times has been quarried at Hildenley, near Malton (Howe 1910).
Red	Red of a sandy, slightly calcarious fired clay probably taken from smashed roofing tiles.

THE PAINTED WALL PLASTER

by David S. Neal

Painted wall plaster (Fig. 58) was found in Room 1, Building 1, where it survived on the north and east walls and with a minor trace on the south wall. Not surprisingly, therefore, the largest assemblage of fallen painted plaster from Building 1 came from Room 1. A few fragments of painted plaster were also found in Room 7 and because they were different in style to the material in Room 1, they indicate that this room was probably also painted - but no plaster was found *in situ*. In Building 2 painted wall plaster was found *in situ* on the south wall of Room 10 and many fragments of painted plaster were found amongst the rubble filling of the robbed out hypocausts of the bath-suite. There is no evidence that other buildings within the complex also had painted plaster.

Painted Plaster from Building 1

In Room 1 two main areas of plaster survived *in situ*, on the north and east walls. They were situated at the same level and comprised a *dado* or skirting about 200mm above floor level painted pink. Above this was a series of oblique parallel black lines about 150mm apart joined to one another, where they met the *dado*, by a series of semi-circles creating a 'scallop'-like or awning effect (Fig. 58.1). The spaces between the black lines alternated red and 'white' (although the colours had faded considerably and, in places, the white appeared to have been a pale-grey or yellow). On the north wall the lines ran at an angle from top right to bottom left but on the east wall the orientation was reversed - from top left to bottom right. The semi-circular 'scallops' were probably white. On the north wall several fragments of plaster were found *in situ* sealing the design just described and comprised a white background with 'purple and blue splodges'.

Many of the fallen fragments appear to have come from the same primary design but included among them are fragments painted greyish mauve with dark red flecking or spirtling. Possibly these are from the secondary decoration. Also, among the pieces is a fragment (LB/KL, 7210567 (Fig. 58.2)) painted in a series of parallel bands including red, yellow ochre, white and yellow ochre. This may be part of a series of bands around a coloured field within a middle zone of decoration but whether from the first or second scheme of decoration is uncertain; the white band had a scored guide line along its length.

Among the fragments of painted wall plaster from Room 7 are two small pieces with recognisable decoration. One fragment (LB/GB, 7210564 (Fig. 58.3)) has a red background with splashes of green, possibly to represent leaves, while the other (LB/GC, 7210564 (Fig. 58.4)) has a red right-angled band on pale green background; possibly this was the angle to a panel. Where the red bands meet there is a small red quadrant.

A single fragment (LX/DW, Fig. 58.5), believed to have come from the area of Room 9, comprised a broad band of yellow ochre with a curved red line, possibly part of a circle, painted on a white ground.

Painted Plaster from Building 2

Painted plaster was found on the south wall of Room 10 (excavators' Room 8). Unfortunately no scale was recorded on the illustration of the plaster but the drawing (Fig. 58.11) shows a yellow 'skirting' along the floor flecked black and white. Above this are traces of pairs of thin horizontal and vertical lines almost certainly forming the surrounds to a series of rectilinear panels for the *dado*. The vertical lines have been clumsily painted and have overrun the bottom horizontal line almost touching the 'skirting'. The outer lines are red and the inner lines yellow. The background is white.

A large quantity of fallen painted wall plaster was found in the robbed out hypocaust of the bath-suite but the pieces in every case had been considerably broken during the robbing process and had become very abraded. However, it is clear from the better preserved fragments that the decoration appears to have been of a higher standard, for example, than that in Room 1, Building 1. Many fragments are bands of various colours and probably surrounded rectilinear panels within the middle zone of decoration. One fragment (LA/EZ, 7210575 (Fig. 58.6)) has red, black and white lines and another yellow, white, red, white and red lines, for example. However, a fragment from Room 5 (LA/DW, 72610574 (Fig. 58.7)) has a white background painted along one side with a pink band edged in dark red and with a curved dark red line crossing it diagonally. It is tempting to suggest that this may be part of a column with a tendril spiralling up it similar to an example from Boxmoor (Davey and Ling 1981, fig. 6) although the design may be too small for this. Another fragment (Fig. 58.8) from the same sample has a red and black band against a white background; converging diagonally across the white background is a red line but the fragment is too small to draw reliable conclusions as to the scheme of decoration unless it formed a trellis pattern.

A fragment from Room 7 (LA/EZ, 7210575 (Fig. 58.9)) has a pink background with two concentric curved lines, possibly originally circles. Circles are rarely found decorating the central zones of walls but they do occur, for example, on ceilings where they are often found within a coffered scheme such as that from Witcombe (Davey and Ling 1981, no. 50, 199). However, a closer example, geographically and stylistically, may be the series of circles which decorated the frieze at Dalton Parlours (Ling 1990, pl. xxx).

Conclusions

A report on the mortar and plaster analysis by G.C. Morgan follows these descriptions but suffice to generalise here that seven mortar types were found. One of these samples (LA/DW, 7210574 (Fig. 58.10)) came from Room 5 and comprised painted plaster on an undercoat of *opus signinum*. This, therefore, must have come from a wet area requiring water proofing. It had a yellow ochre band edged with a black line to one side of a white background. An irregular area of red on the white ground cannot be interpreted.

The painted decoration from Building 2 appears to have been of a higher quality than that from Building 1. Much of the assemblage is abraded and joins could not be made between the pieces but, nevertheless, sufficient was identifiable to deduce that none of the material had figured scenes. It was all geometric and although the sample was too small to form any firm ideas as to the overall layout it is likely that the decoration in both houses followed the conventional arrangement comprising a *dado* with rectilinear panels above and, possibly, with a frieze close to the ceiling.

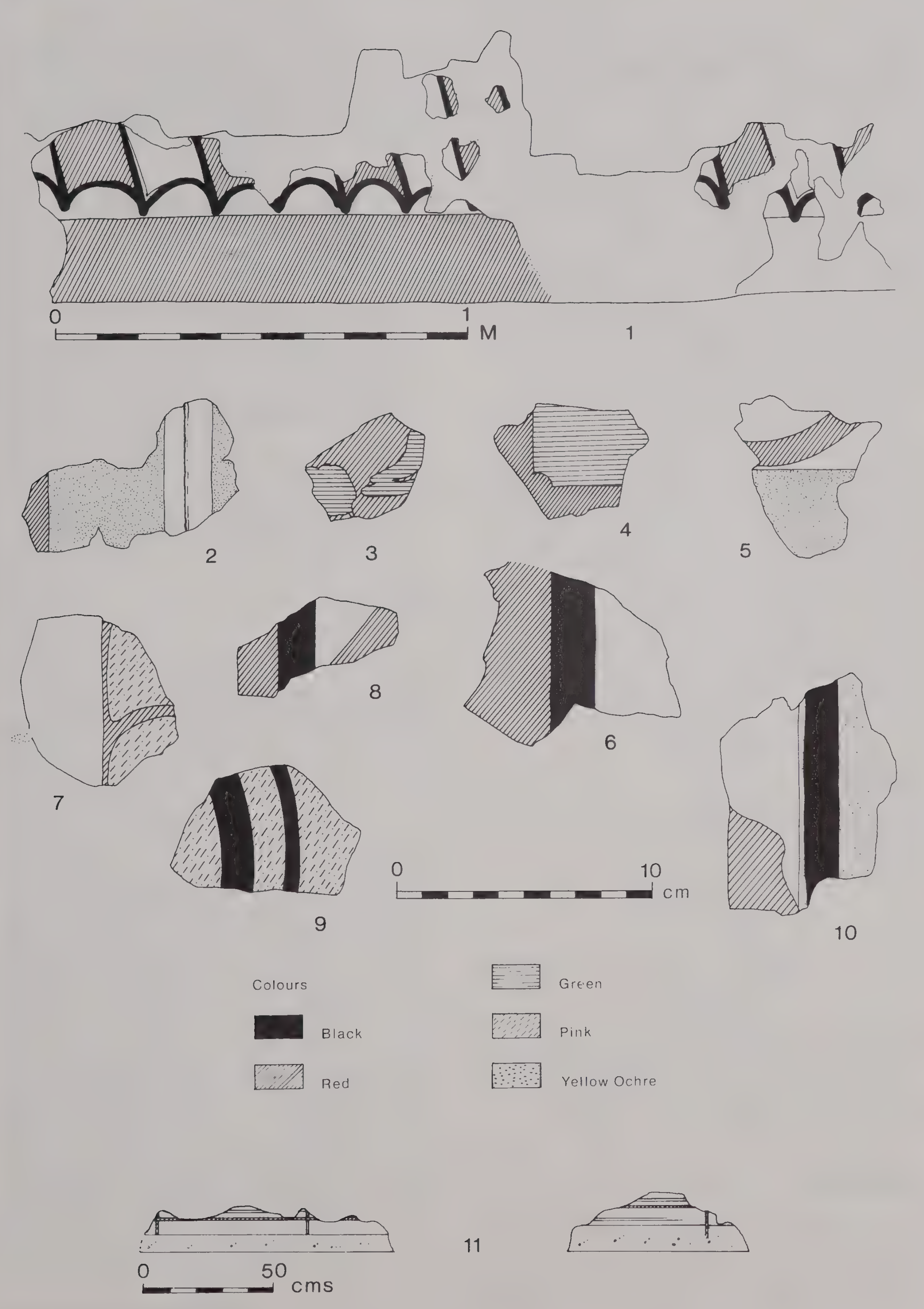


Fig. 58 The painted wall plaster.

Mortar and Plaster Analysis
by G.C. Morgan

All the mortar and plaster samples were lime based. They were analysed using physical and chemical methods to ascertain the nature of the aggregate and the lime content. After dissolving the samples in dilute hydrochloric acid the aggregate residues were graded and identified geologically. The carbonate content was measured on micro samples whilst the 'lime' content (the acid soluble component) was measured on larger samples. Few of the samples produced sufficient material for the 100g minimum weight recommended for the standard methods of analysis and fragments of limestone or chalk were present in many samples. All results must, therefore, be considered tentative.

The results are compared with a national analytical survey of Romano-British mortars and plasters (Morgan 1992) and the ancient writers Pliny and Vitruvius. The aggregates reflect local geology in being comprised mainly of sandstones, including ferruginous sandstones, quartz and coralline limestone residues in the form of chalcedony. Smaller amounts of quartzite, flint and schist were also present. The use of quantities of crushed brick or tile is also of note and, as some of this was made from sandy clay, some of the sand in the aggregate was derived from tile and not, presumably, from the local sand deposit. The descriptions give the layers from the surface downwards, starting with any paint and *intonaco* layers through to the lower layers of plaster or mortar. The layer thicknesses are in millimetres (mm). Full descriptions of the analyses of the samples will be found in the site archive.

Pigments

The pigments found are those commonly seen in Romano-British painted plaster.

They include:-	Red ochre	haematite
	Yellow ochre	limonite
	Green earth	glauconite
	White	lime
	Black	carbon (as soot or charcoal)
	Crushed Egyptian blue	

The crushed Egyptian blue is the only manufactured and possibly imported colour. The rarer and more expensive red colour of cinnabar was not found. The technique of painting appeared to be true or *buon fresco*, with pigments applied to wet lime plaster or *intonaco*. Some over painting may have been in the *fresco secco* technique.

Aggregates

The particle size distribution analysis suggests that there are probably five or six aggregate types, with some variations. These are generally based on sand, crushed brick or tile, or mixtures of these types. It is probably safe to assume that very similar graphs are from contemporary plaster mixtures, as can be seen in some layer samples. The variation in sand gradings is caused by the use of different sand deposits, being spaced either laterally or vertically in the sand course. Typical analyses are shown on Fig. 59.

The aggregate types are as follows:

1 Brick or tile based (*opus signinum* types)
2 Sand and brick or tile based
3 Sand based

The layering types are as follows:

1 Plain *opus signinum* mouldings and opus signinum on sandy plaster (eg. LC/CL)
2 Layered *opus signinum* plaster on white plaster (eg. LA/BD, LA/CV)
3 White sandy plaster on *opus signinum* (eg. LA/DW)
4 Multi-layered sandy plaster with some tile (eg. LA/BV)
5 White sandy plaster on yellow daub? plaster (eg. LA/CA, LA/ET, LB/CX)
6 White sandy plaster on buff sandy plaster (eg. LA/DY)
7 Over plastered sample with three separate layers of sandy plaster representing three phases.

Discussion

The above results compared with the national survey show that there is a higher 'lime' to aggregate ratio than is normally found in Romano-British mortars and plasters. This may be a local tradition but the presence of limestone fragments in some samples may have given a higher acid soluble value and should be considered. The presence of large amounts of very fine aggregate material, in the order of 50% of the total acid insoluble, is also of note. This residue is partly very fine sand and, as the silt/soluble results show, the silt content generally increases with the 'lime' or acid soluble content, suggesting that the limestone or lime was the source of some of this fine material. The presence of plaster showing reed bundle impressions on the rear shows that either light timber and reed internal walls or ceilings were present (eg.LB/SK, 7210566).

The *opus signinum* or tile based plasters have a very high amorphous silica content due to the hydraulic nature of the mixture and lime/aggregate interactions. Several different types of plaster were noted, due to particular use or phase. The *opus signinum* or tile based plasters, because of their water-resisting properties, were probably associated with the lower damp parts of walls or with the bath-suite as the shaped pieces, which originally covered the plunge-bath seat or steps, suggests. Some of the pink plaster had been reddened by burning and not due to the presence of red brick or tile, pointing at least to some conflagration. The general thicknesses of the paint, *intonaco* and plasters compare well with the averages of those found nationally. The presence of white calcareous concretion on some samples would back the idea of quantities of calcium-rich water being present, either flowing or in a pool.

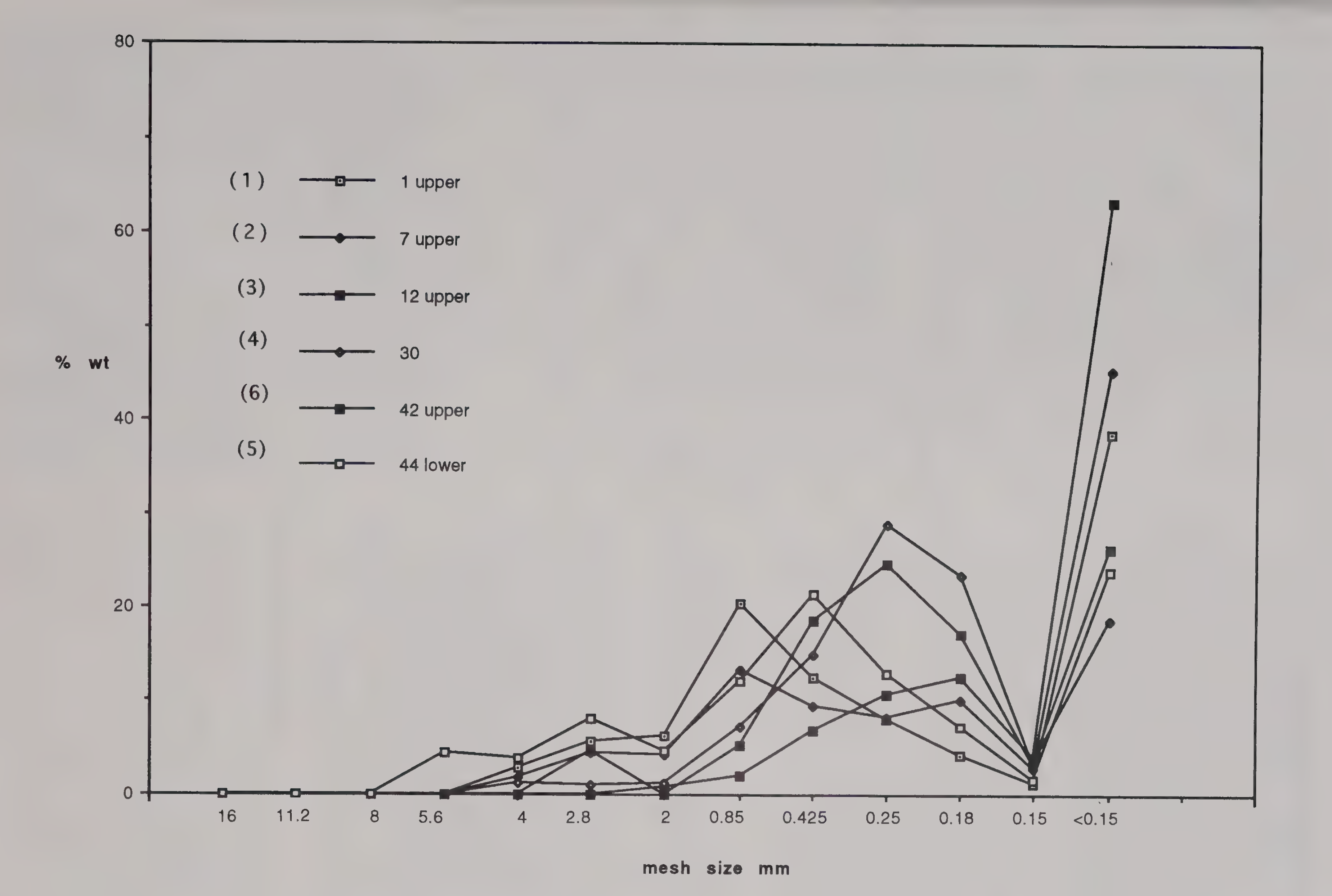


Fig. 59 The wall plaster. Particle size distribution curve comparing different aggregates.

THE HUMAN BURIALS

by S.A. Mays and S.R. Strongman

An adult female and two infant inhumations were excavated at Beadlam between 1969 and 1978. The adult (Burial 1) was found in a somewhat disarticulated state among the demolition rubble in Room 6, Building 1. One of the infant burials (Burial 2) was associated with a pottery vessel against the north wall of Building 8, while the other (Burial 3) was located to the east of Building 4 in the East Range.

Burial 1 (Context LB/KV, Room 6, Building 1)

Material: Preservation moderate, with approximately 70% of the skeleton surviving.

Sex: Female (Brothwell 1981).

Age: 21-24 years (Workshop of European Anthropologists (1980) fusion of the illiac crest; Szilvassy (1980) morphology of the sternal articular faces of the clavicles).

Stature: 1.733m (Trotter and Gleser (1952), reproduced in Brothwell (1981)).

Dental formula:

```
- - - T - - - T T - - - - - - -
8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8
8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8
- T - - - - - - - - - - T - - -
     LEFT           RIGHT
```

Key
- = Tooth and jaw missing post-mortem
T = Part of jaw missing but tooth present

Note: A small channel is present on the inferior surface of two thoracic vertebrae. These probably represent Schmorl's nodes. In younger individuals they may be formed by the extrusion of material from the inner core of the intervertebral disc as a result of severe spinal compression (Schmorl and Junghanns 1971).

Burial 2 (Context LM/MQ, Building 8)

Material: Preservation good to moderate, with approximately 90% of the skeleton surviving.

Sex: Unknown.

Age: 36-38 weeks *in-utero* (Scheuer *et al* (1980) - long bone lengths)

Dental formula:

```
Deciduous Dentition
    U U
X X X . . X X X X X
5 4 3 2 1 1 2 3 4 5
5 4 3 2 1 1 2 3 4 5
X X X X . . . X X X
      U U U
  LEFT     RIGHT
```

Key:
· = Tooth present in jaw
X = Tooth lost post-mortem but socket present
U = Unerupted tooth

Burial 3

(Context LC/FV, feature 33, east of Building 4, East Range)

Material: Preservation good, with approximately 90% of the skeleton surviving.

Sex: Unknown.

Age: 2-3 years (Massler *et al* (1941) - development of deciduous dentition)

Dental formula:

```
Deciduous Dentition
. . . . . . . . . .
5 4 3 2 1 1 2 3 4 5
5 4 3 2 1 1 2 3 4 5
. . T - . . . . . .
  LEFT   RIGHT
```

Key:
· = Tooth present in jaw
- = Tooth and part of jaw missing
T = Part of jaw missing but loose teeth present

Note: Dental enamel hypoplasia, identified by the presence of linear depressions running transversely across the enamel of the tooth surface, is present on the newly formed permanent mandibular incisors. Hypoplasia is a structural defect resulting from disease or dietary stress during the development of the tooth (Goodman *et al* 1980).

Conclusion

Burial 1 is a female adult who died in her early twenties. She was found amongst the demolition debris in Room 6, Building 1. No grave outline could be recognised on excavation and the burial was not cut through the floor. It would thus seem to postdate the abandonment of the villa and therefore be fifth century or later. The bones were found in a disarticulated state, although most areas of the skeleton were represented, and were in very approximate anatomical rela-

tionships to one another; the suggestion is that the individual was originally interred as a complete body.

One possible explanation for the above observations is that, following the abandonment of the villa, a corpse was disposed of within the ruined building and was subsequently buried by the collapse of the structure. This is unlikely, however; a corpse abandoned in a ruined building is almost certain to attract scavengers, but no signs of animal gnawing were present on the bones. Were a body left lying on the surface for any length of time we might also expect more skeletal elements to be missing. The few teeth that are present are in good condition and large pieces of cancellous bone are preserved. Tooth enamel tends to fragment if exposed to the elements for any length of time and cancellous bone would not be expected to survive, hence this also argues against the body lying uncovered on the surface for a lengthy period. A more likely explanation is that it was either in a grave cut into the demolition rubble or that the corpse was laid on the floor and rubble heaped over it.

Burials 2 and 3 are infants aged 36-38 weeks *in-utero* and 2-3 years respectively. The average length of gestation is 38-41 weeks (Tanner 1989, 43), after about 28 weeks the foetus, given care, might on occasion survive, even in antiquity (Molleson 1993, 171). Thus Burial 2 within Building 8 seems to be a slightly premature birth but it is not possible to determine whether it was stillborn or died during the immediate post-natal period.

In addition to the adult skeleton discussed above some redeposited fragments of bone were also found in the excavation of the villa. None of these seemed to derive from the Room 6 burial and they came from at least two adults. This suggests the presence, originally, of at least two further inhumations in the vicinity of the site.

For full data on the individual burials see Ancient Monuments Laboratory Report No. 2/95.

ENVIRONMENTAL MATERIAL FROM THE ANIMAL BELL
by Michael J. Allen

Material from inside the animal bell (Fig. 40, No. 96) found in the stoke-hole in Room 8, Building 2, was extracted by the conservation department of the Ancient Monuments Laboratory during cleaning and submitted for environmental analysis. It contained two terrestrial molluscs, one complete and one lacking proto-conch and primary whorls. Both specimens are *Oxychilus cellarius* (Müller) which is found in moist, sheltered places and is very common in woodlands, tumbled wall debris and piles of stones (Evans 1972) and is frequent in tall grass. Boycott (1934, 17) says *Oxychilus cellarius* occasionally occurs '...on bare chalk downs and such places which have no shelter or accumulated moisture is to be found'. This is probably because of its carnivorous nature drawing it away from its habitat. Kerney and Cameron (1979) describe it as '...markedly carnivorous...' and Boycott remarked '...I have watched *Hyalinia lucida* [*Oxychilus draparnaud,* ...a close relative] eating a hatching batch of *Helix aspersa* [common garden snail] eggs with gusto...'. *Oxychilus cellarius* is recorded in cairns and chambered tombs attracted there by decaying bodies (Evans 1972). It has also been recovered from within crania and amongst bones of human skeletons (*ibid*, 34, 188). This mollusc may, therefore, have been associated with the rotting carcass of an animal. There would be many environments around a villa which might be suitable for this mollusc and, in fact, the bell itself provides a cool, moist, and shady habitat.

Also extracted from the material from the bell were segments (some with legs) of mineral replaced Polydesmid millepedes (M. Girling *dett*). Polydesmid is a 'many banded' rather flattened millepede having the body keeled laterally and small or non-existent eyes. Millepedes are usually found in damp places, under leaves, in moss, in the soil or under stones (Borror and Delong 1970) and scavenge and eat decaying plant material. Both the snail and millepede are typical of similar environments and, therefore, could easily co-habit.

THE FLINT ASSEMBLAGE
by C. Tolan-Smith

While the site of a Roman villa might not be the first place a prehistorian would look for an assemblage of chipped stone tools it is also the case that few sites, of whatever period, produce no material of this kind if they are sufficiently extensively excavated. The Beadlam villa is no exception to this general rule. What makes its flint assemblage of more interest is that 95% came from one part of the site, suggesting a distinct concentration of activity. It is also of interest that the site is situated in an area rich in prehistoric monuments; three tumuli, putatively Bronze Age burial mounds, lie within 250m to the north. The following comments summarize its main features.

RAW MATERIALS

There are 60 items, 59 of which are flint. The remaining piece (649) is a coarse chert, or limestone, and may not be an artefact. Five categories of flint may be distinguished of which the most common is grey with numerous mottles (30 items (50%)), most but not all of which are lighter than the flint. Ten items (16%) may be described as grey/brown and a further 10 grey/green. Artefacts made from these mottled, mainly opaque flints, are widespread throughout the north of England and probably originated from sources on the Yorkshire Wolds, the nearest source of outcropping raw material of this

kind. Five items (8%) are of ginger/brown flint which probably has a different, though as yet unestablished, source. Similar material forms a common component of assemblages in the Pennines and as far north as Tynedale. Its source may be pebbles collected from gravel deposits but, given the view expressed in the Geological Survey Memoir for the area that gravels in the Beadlam district are composed almost entirely of neighbouring rocks (Fox-Strangways 1881, 31), the material for those artefacts, or the objects themselves, may be imported. Three items (5%) are made from a white patinated flint, possibly also of drift origin and one is burnt.

Reduction

The assemblage includes the products of all stages in the reduction sequence though not in the proportions to be expected if Beadlam was a flint knapping site.

Cores	1	1%
Cortical flakes	6	10%
Core tablets and rejuvenation flakes	7	12%
Flakes	40	67%
Debitage spalls	6	10%

In the case of 20 flakes, length to breath ratios exceed 2:1 and the artefacts in question should be classed as blades. In fact, although blades are numerically in the minority if cortical flakes are included, the residue of broader flakes includes many items too small or too irregular to have been useful as implements, with or without retouch. The Beadlam assemblage may be described as dominated by blades of standard proportions between about 20mm and 45mm long.

The small number of cortical flakes indicates that the primary stages of the reduction sequence were not often undertaken at Beadlam and that the cores were mainly prepared elsewhere. The assemblage includes a single, uniplatform, blade core made from a cobble of grey/green mottled flint (606). However, the presence of core tablets and rejuvenation flakes testifies that flint knapping did take place on the site, as does the retouched and utilized debitage. Both hard and soft hammers were used at different stages in the reduction sequence and many blades have fine parallel dorsal scars implying the use of indirect percussion.

Retouch and Utilisation

Fourteen items (23%) exhibit varying degrees of retouch while a further six (10%) bear traces of utilisation. This is an unusually high proportion (33%) of the total assemblage and further indicates that Beadlam was not primarily a flint knapping site but a location where stone tools were actually used. What knapping took place may have arisen from the maintenance of an existing tool kit. Most of the implements described below are illustrated in the accompanying figure (Fig. 60).

The assemblage includes four scrapers, 573, 585, 598 and 627. Retouch is either abrupt or semi-abrupt and may be continuous or limited to the distal end, while 627 may be a small end scraper, but it is too badly damaged by burning for this to be certain. Two blades, 584 and 597, exhibit fine denticulate retouch on their lateral margins while 589a and 622 have varying extents of abrupt retouch. Two further items, a flake, 590 and a blade, 623, have been truncated distally with abrupt retouch. Probably the most interesting and informative individual items are 596 and 621. The former is a damaged leaf point, or arrow head, made on a symmetrical flake. This flake needed only a little modification, and this seems to have involved some very fine trimming of the lateral margins. The damage sustained may have occurred during this modification thus rendering the point unserviceable. Item 621 is the broken tip of a plano-convex knife. The fourteenth retouched item, 636 (not illustrated), is a roughly trapezoidal flake, three of the margins of which have been trimmed with abrupt retouch. The shape and triangular section suggest that 636 may be a gun flint, and not part of the prehistoric assemblage.

Four of the utilised but un-retouched items are blades, 611, 648, 659 and 661 (none illustrated), and exhibit similar traces of use along their lateral margins. The cause of such damage is difficult to ascertain without experimental replication and useware analyses but it is consistent with use of the blade edge in a cutting motion. These utilized flakes are of a similar size and proportion to the blades with denticulate retouch (584 and 597) and should perhaps be grouped with them. Such formal denticulation is a characteristic considered especially suitable for cutting plant stems such as grasses, including cereals and reeds. The truncated blade, 623, also has lateral utilization traces, while the truncated flake, 590, has a cutting edge of similar length. This group of eight items could all have been used in a similar fashion and constitute a significant part of the Beadlam assemblage.

Date and Context

All but three of the flint artefacts from the Beadlam villa site were found during the excavation of the East Range, 33 being recovered from topsoil or rubble contexts. Twenty-four items came from contexts believed to antedate the construction of the East Range and may, accordingly, be associated with a phase of prehistoric activity. The pre-villa features and contexts and the flint assemblage may not be contemporary and the latter may not all belong to a single period of activity. In typological terms the most readily assignable items are the leaf-point, 596, and the plano-convex knife fragment, 621. The former is a rather atypical example of a classic Neolithic type whereas plano-convex knives are common in Early Bronze Age contexts. These two items suggest a date within the period between *c.* 3500-1500 B.C. As already noted the Beadlam assemblage is dominated by blades, but these are of little help in refining its chronology. Blades are a regular component of Mesolithic assemblages but the absence of any typical Mesolithic finds, such as microliths or biproducts of

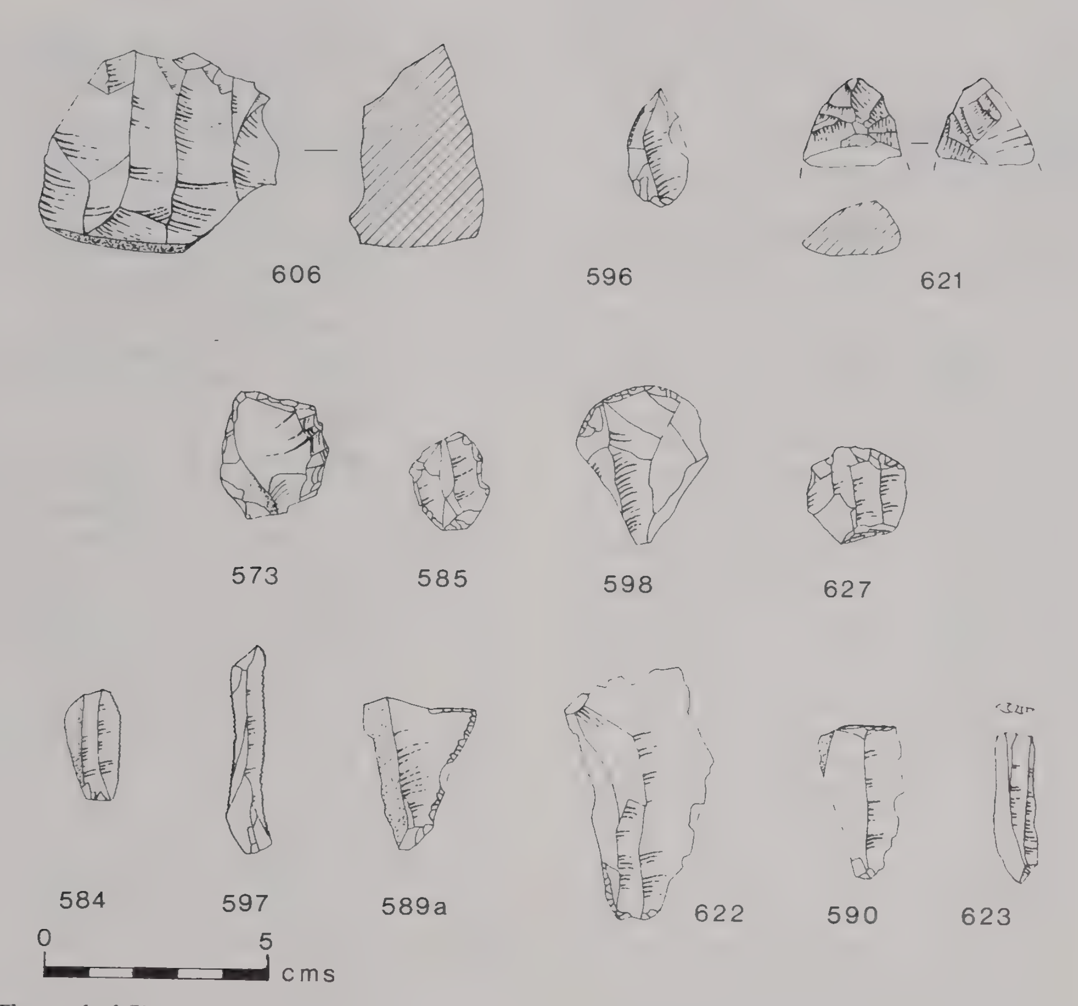


Fig. 60 The worked flint.

their manufacture such as micro-burins, makes such an early date unlikely. Blades are also common in Neolithic assemblages, particularly belonging to the later part of the period, while the Beadlam scrapers would not be out of place in a Late Neolithic or Early Bronze Age context, and a date for the whole assemblage between *c*. 2500-1500 B.C. may be tentatively suggested.

As noted at the beginning of this report, the villa site lies within 250m of a group of three tumuli. The region as a whole has many monuments of this kind which are usually ascribed to the earlier part of the Bronze Age on the basis of finds made during barrow 'opening' campaigns in the nineteenth century. One very active investigator at this time was James Ruddock who based his activities on Pickering. Ruddock's barrow 'openings' are reported in Bateman (1861, 204-41). Although he 'opened' many barrows in the area there is no record that the Beadlam tumuli were the subject of his attention. Neither do they appear in the *Victoria County History* list of barrows (Armitage and Montgomerie 1912, 68-71). Nonetheless, it remains likely that the Beadlam tumuli are Bronze Age barrows, and accordingly provide further evidence of prehistoric activity in the immediate vicinity of the villa site.

The assemblage is too small for the nature of activity represented to be determined with any confidence. However, from its composition it seems unlikely to have been primarily concerned with the manufacture of flint tools. In addition to material discarded at knapping sites, flint tools enter the archaeological record through being discarded or lost at places where they were used. Two broad categories of use may be conjectured, use during the processing of raw material and the manufacture of equipment and use during the procurement of resources. Examples of the former kind are scrapers and butchery knives while arrow heads and sickle blades may be said to fall into the second category. Processing, manufacture and maintenance often take place at settlements while procurement of resources, virtually by definition, takes place elsewhere. The Beadlam assemblage includes examples of both categories, but its small size argues against settlement of any more than an intermittent nature. In terms of the model proposed above, the retouched and utilised blades at Beadlam suggest that the site was more the scene of procurement activities, perhaps the harvesting of plant resources, while the settlement which was the focus of such activity probably lay nearby.

APPENDIX 1: POTTERY FABRIC DESCRIPTIONS

Fabric A1	A hard amphora fabric with red core and buff orange surfaces; some fine limestone inclusions *c.* 0.2mm and very occasional fine mica flakes.
Fabric A2	Dressel 20 amphora fabric with orange core and buff-orange surfaces, often white slipped; Some fairly coarse sand temper *c.* 0.4mm, common limestone inclusions *c.* 0.4mm, and some gold and silver mica. Source - Guadalquivir, Southern Spain.
Fabric A10	A fairly hard buff Pelichet 47 amphora fabric; some very fine sand temper *c.* 0.1mm and abundant fine mica. Source - southern Gaul.
Fabric A20	A fairly hard orange fabric; common fine limestone inclusions *c.* 0.2mm and black inclusions *c.* 0.5mm. Source - Campania.
Fabric B1	Black Burnished ware I. Williams (1977). Source - Poole Harbour, Dorset.
Fabric B10	Black Burnished ware 2. (Williams 1977) Sources - Essex and Kent.
Fabric B11	A hard darkish grey fabric often with silky burnished surfaces; some coarse translucent sand *c.* 0.5-1mm.
Fabric F10	'Rhenish' ware. Central and Eastern Gaul.
Fabric F11	Nene Valley colour-coated wares (Howe *et al* 1980).
Fabric G1	A handmade generally black fabric; abundant calcite tempering *c.* 0.5-5mm and some brown-black ironstone inclusions up to 5mm.
Fabric G2	A wheelmade fairly hard calcite gritted fabric; abundant calcite inclusions *c.* 0.5-4mm.
Fabric G3	A handmade, hard, dark grey fabric; abundant calcareous sand inclusions *c.* 0.3-1mm.
Fabric G4	A handmade dark grey fabric; common fairly coarse sand temper *c.* 0.3-0.4mm and some calcite inclusions *c.* 1-5mm.
Fabric G5	A handmade black fabric; abundant moderate/coarse sand temper *c.* 0.3-0.4mm and very occasional calcite inclusions *c.* 0.5-5mm.
Fabric G10	A handmade hard, dark greyware, Dales ware; common shell fragments *c.* 1-10mm, no visible sand temper. Source - north Lincolnshire.
Fabric G11	A wheelmade reduced ware with abundant shell inclusions, probably fossil. Southern Shell-Tempered ware (cf. Sanders 1973; Plouviez 1976), probably from Harrold (Brown 1994).
Fabric G20	A handmade, hard dark grey fabric; common-abundant translucent quartz inclusions *c.* 1mm.
Fabric G21	A hard fabric with a brown core and dark grey surfaces; common-abundant coarse translucent sand temper *c.* 0.4mm.
Fabric G22	A very hard grey fabric; common translucent quartz temper *c.* 1-3mm and very occasional calcareous inclusions *c.* 1mm.
Fabric M1	A hard orange mortarium fabric; common translucent quartz inclusions *c.* 0.5-1mm and some quartz inclusions *c.* 2mm. Trituration grits - common, sub-angular white-grey and brown quartzite *c.* 2-4mm and some brown ironstone and other stone *c.* 2-4mm. Source - possibly Malton (KFH).
Fabric M2	A coarse orange mortarium fabric with a grey core, orange margins and surfaces; occasional sand temper *c.* 0.2mm and some orange ironstone inclusions *c.* 0.5-2mm and some white grog inclusions *c.* 1-2mm. Source - possibly Malton (KFH).
Fabric M3	A white-slipped hard orange mortarium fabric; some fine sand temper *c.* 0.1mm and some brown ironstone inclusions *c.* 1-3mm. Trituration grits - brown ironstone and white, brown and grey quartzite. Source - Malton (KFH).
Fabric M4	A white-slipped fairly hard mortarium fabric with dark grey core and orange surfaces; some coarse sand temper *c.* 0.5-1mm and very occasional large ironstone inclusions *c.* 5mm. Trituration grits - sub-rounded white quartz *c.* 2-4mm. Source; probably north-east England (KFH).
Fabric M5	A hard orange mortarium fabric; common moderate sand temper *c.* 0.3mm, common orange grog? inclusions *c.* 2-4mm. Trituration grits - black slag *c.* 2-5mm (cf. Evans 1985). Source - probably Swanpool.
Fabric M6	A hard orange-red mortarium fabric; some dark orange ironstone inclusions *c.* 0.5-2mm and some fine white calcareous? inclusions *c.* 0.2mm. Trituration grits - black slag. Source - probably Cold Cam.
Fabric M7	A mortarium fabric with a grey-buff core and pale orange margins and surfaces; common moderate sand temper *c.* 0.3mm. Source - North-east England (KFH).
Fabric M8	A white-slipped, yellowish-buff mortarium fabric, with buff core margins and surfaces; common fine sand temper *c.* 0.1mm and common rounded red ironstone *c.* 0.5-2mm. Trituration grits - common angular grey stone *c.* 2-4mm and some sub-rounded brown stone *c.* 2-4mm. Source - probably fairly local (KFH).
Fabric M09	A hard orange mortarium fabric with orange core, margins and surfaces; common moderate sand temper *c.* 0.3mm. Trituration grits - sub-rounded white quartzite *c.* 2-3mm. Either Rhenish or a local product (but far from typical if Rhenish - KFH).
Fabric M10	A fairly hard white mortarium fabric; abundant orange ironstone? inclusions and some white quartzite *c.* 1-2mm. Trituration grits - orange ironstone?, white quartzite and perhaps brown sandstone. Source - Lower Germany (KFH).
Fabric M11	A hard white mortarium fabric (type sherd burnt grey); occasional moderate sand temper *c.* 0.3mm. Source - uncertain, possibly Rhenish.
Fabric M12	A fairly hard white mortarium fabric; probably some very fine sand temper *c.* <0.1mm. Trituration grits - white, grey and brown quartzite gravel and some brown sandstone. Source - possibly Lincoln.
Fabric M13	A fairly hard white mortarium fabric; some fine grog inclusions *c.* 0.2mm and some very fine sand <0.1mm as surfaces appear finely micaceous. Trituration grits - orange, grey and brown grog *c.* 1-4mm. Source - Mancetter-Hartshill.
Fabric M14	An Oxfordshire parchment ware mortarium (Young 1977).
Fabric O1	A soft buff/orange fabric; little visible sand temper, occasional red/brown ironstone inclusions *c.* 0.5-1mm and some fine sand temper less than *c.* 0.1mm.
Fabric O2	A hard orange-brown fabric; perhaps a little very fine sand temper <0.1mm and common fine mica.
Fabric O3	A fairly hard orange fabric; no visible sand temper, some very fine sand <0.1mm gives a slight finely micaceous appearance, very occasional white calcareous inclusions 0.5mm.
Fabric O4	A very hard orange fabric with a 'crisp' break; occasional sand temper *c.* 0.3-0.4mm.
Fabric O10	A hard orange fabric; common moderate sand temper *c.* 0.3mm with occasional white calcareous inclusions *c.* 0.3-0.5mm and occasional red ironstone inclusions *c.* 2mm. Probably a Malton fabric.
Fabric O11	A hard orange fabric with a 'crisp' fracture; little visible tempering, very occasional sand 0.2mm and some brown-black ironstone inclusions *c.* 0.3-0.5mm.
Fabric O12	A softish orange fabric with abundant coarse sand temper *c.* 0.4-0.5mm.
Fabric O13	A hard, buff fabric with a fairly 'crisp' break; common moderate sand temper *c.* 0.3mm.
Fabric O14	A hard, buff fabric with buff-orange core, buff margins and surfaces; Common fine sand temper *c.* 0.1mm and some red ironstone inclusions *c.* 0.3-2mm. The surfaces appear micaceous and have a slightly 'soapy' feel.
Fabric O15	A softish buff fabric; common fine sand temper *c.* 0.1mm, occasional red ironstone inclusions *c.* 0.5-2mm and some mica.
Fabric O20	A softish buff fabric with common whiteish sand temper *c.* 0.3mm and occasional white limestone sand inclusions.
Fabric O21	A hard buff fabric; perhaps a little very fine sand temper, very occasional calcareous sand inclusions *c.* 0.3mm and common fine mica *c.* 0.1mm.
Fabric O30	Crambeck redware (Evans 1989).
Fabric P1	A handmade, fairly hard, reduced fabric of Iron Age tradition, of vesicular appearance; abundant calcite? or vegetable voids *c.* 0.5-3mm.
Fabric P2	A handmade reduced fabric of Iron Age tradition; common fine limestone? inclusions *c.* 0.1mm and some voids, limestone/calcite inclusions and flint *c.* 2-4mm.
Fabric Q1	A hard orange fabric; common-abundant moderate sand temper *c.* 0.3mm. The fabric is often white slipped.
Fabric R1	A fairly hard grey fabric with a rather 'soapy' feel; some/common fairly coarse translucent sand temper *c.* 0.3-0.4mm.
Fabric R2	A hard, perhaps overfired dark greyware with a 'crisp' break; some black ironstone? inclusions *c.* 0.5mm.
Fabric R3	A hard fabric with dark grey core, whiteish margins and brown

surfaces; occasional moderate sand temper *c.* 0.3mm and occasional calcareous inclusions *c.* 1mm.

Fabric R4	A fairly soft, brown fabric; common brown ironstone? inclusions *c.* 0.3-1mm and some very fine sand temper <0.1mm which gives a finely micaceous appearance.
Fabric R5	A hard grey fabric, perhaps with an orange-brown core, with a rather 'soapy' feel; no visible sand temper, occasional white calcareous inclusions *c.* 0.5-2mm and some very fine sand temper <0.1mm which gives a finely micaceous appearance.
Fabric R6	A fairly hard, grey fabric with a 'soapy' feel; very little visible temper but probably much fine sand temper <0.1mm.
Fabric R7	A very hard grey fabric, often with a sandwich effect of dark grey core, lighter margins and dark grey surfaces (or vice versa); there may be common fine sand temper *c.* 0.1mm or less or some moderate sand *c.* 0.3mm. Source - Holme-on-Spalding Moor.
Fabric R8	A reduced fabric with buff core and grey surfaces; little visible sand temper, probably some fine sand <0.1mm.
Fabric R9	Crambeck greyware (Evans 1989).
Fabric R10	A hard grey fabric with a 'crisp' break; common moderate sand temper *c.* 0.3mm.
Fabric R11	A hard greyware; common moderate sand temper *c.* 0.3mm. This group almost certainly includes fabrics from more than one source.
Fabric R12	A hard fabric with orange core and brown-grey surfaces; common-abundant fairly coarse sand temper *c.* 0.3-0.4mm.
Fabric R13	A very hard grey fabric with a 'crisp' fracture; common-abundant fairly coarse sand temper *c.* 0.3-0.4mm.
Fabric R14	A very hard grey fabric, overfired wasters; some moderate sand temper *c.* 0.3mm.
Fabric R15	A very hard grey fabric often with a 'crisp' break; common moderate sand temper *c.* 0.3-0.4mm. Source - Norton.
Fabric R16	A hard, darkish grey fabric; common whiteish coarse sand temper *c.* 0.4-0.5mm. Probably more than one source.
Fabric R17	A hard grey fabric with purplish tinge to the surfaces; some moderate sand temper *c.* 0.3mm. Source - probably Mucking, Essex (Bidwell 1985).
Fabric R20	A fairly hard, rather laminar, reduced fabric with dark grey core, grey margins and dark grey surfaces with a very 'soapy' texture; occasional brown ironstone inclusions *c.* 0.5-2mm. A smooth greyware similar to Parisian ware.
Fabric R21	A thin, fairly soft, fine, highly burnished black fineware with a black core, grey margins and black surfaces; no visible temper. Source - Dragonby.
Fabric R22	A hard reduced fabric with black highly burnished surfaces; some very fine sand *c.* 0.1mm which gives a micaceous appearance to the surfaces. Rigby (pers comm) described this as 'Black Polished Greyware'.
Fabric R23	A hard grey fabric with light grey core and dark grey margins and surfaces and a 'crisp' fracture; no visible tempering, perhaps some very fine sand <0.1mm.
Fabric R30	A very hard grey fabric with a 'crisp' break; some moderate sand temper *c.* 0.3mm and some moderate calcareous sand *c.* 0.3-0.5mm.
Fabric R31	A fairly hard, grey fabric; common coarse translucent sand temper *c.* 0.4mm and some calcareous inclusions *c.* 0.5-2mm.
Fabric R40	A fairly hard handmade greyware fabric; common fairly coarse sand temper and black inclusions *c.* 0.3-0.5mm.
Fabric R41	A handmade greyware fabric; very common translucent sand temper *c.* 0.5-1mm.
Fabric R42	A dark grey, hard, handmade fabric; abundant coarse sand temper *c.* 0.5-1mm and common brown ironstone inclusions *c.* 1mm and occasional white limestone? inclusions *c.* 1-2mm.
Fabric S	Samian ware. Sources - Southern, Central and Eastern Gaul.
Fabric W1	A hard white fabric; common fairly fine sand temper *c.* 0.2-0.3mm.
Fabric W2	A hard white fabric; common/abundant fairly coarse sand temper *c.* 0.3-0.4mm. Perhaps Verulamium ware.
Fabric W3	A whiteware with a rather 'soapy' feel; some rounded orange-pink grog temper *c.* 0.3-0.5mm.
Fabric W10	Crambeck parchment ware (Evans 1989).

APPENDIX 2: LIST OF CONTEXTS AND FINDS CODES WHICH MAKE UP THE POTTERY GROUPS

Contexts	*Finds codes*

Building 1 Rooms 6-8 and 11, rubble

Room 6	LB/DN, FW, DZ, ME, DX, FU, GN, MF
Room 7	LB/BV, DS, CK, CH, BB/AF, AC
Room 11	LB/CW, DD

Building 1, Rooms 1, 2, 10, rubble

Rooms 10/9 rubble	LX/EC, DQ
Room 1, collapse	LB/JG, KL
Room 2, collapse	LB/CY, AY, DU, CT BB/BD, BF, BJ, AP, AS
Room 10, collapse	BB/AD, AH, AL, BQ, AE, AG, AJ, AK, AN, AQ, AM LX/AN, FF, FO

Building 1, Room 9/Verandah, rubble

CIX 'J' and 'H', robber trench for wall (2)	LX/AF, AG, AL
CIX 'L' and 'J' earth/rubble (1)	LX/AE, BS, BV, AX
CVIII (3)	LX/AW, BA, CA, CQ
CVIII (2)	LX/AT
CVII (7)	LX/BF
CVII (12) Verandah surface	LX/DP, ED, EN, FB, HM, HY
Brown earth over subsidence (11)	LX/BY
CIX (14)	LX/DW
CIX (1) and (15)	LX/EK, FH, FN, GE, HA
CVIII (2)	LX/HX

Building 1, Rooms 3-5, rubble

Room 3, rubble	LB/CF, FX, CG, FY, FZ
Room 4, rubble	LB/HF, JB, JD, HG, JE, KQ, LJ BB/BM
Room 5, rubble	LB/HE, LL

Building 1, Rooms 1-5, occupation

Room 4, flue	LB/XT
Room 4, (7)	LB/RG
Room 3, corridor	LB/RF
Room 4, stokehole (6)	LB/QM, RK
Room 4, outside flue (6)	LB/RJ, QL
Room 4, hearth	BB/BG
Room 4, occupation (5)	LB/PV, ON, QH, LK
Room 1, occupation (5)	LB/OM, PN
Room 2, hypocaust flue	LB/XU, XV, XW, XX, XY, XZ, YA, YC, YD, YG, YK, YL

Building 1, Rooms 6-8 and 11, occupation

Pit in north-west of room 6 - stokehole	LB/WE
Room 6 (5)	LB/HZ, JC, MG, QE, HT, KB
Room 7, soil over (5)	LB/HP
Room 7 (6)	BB/BA, BO, AR
Room 6, pit	LB/QK, RB
Room 7 (4)	LB/FB
Room 6, stokehole	LB/QJ
Room 11	LB/EZ

Courtyard south of Building 1, rubble

Rubble	LB/GH, GD, GF
CIX (2), rubble	LX/DC, DD

Courtyard south of Building 1, occupation

(4)	LB/HV, HW, JK, JM, JN, KP, KR, KT, LM, LO, OO, PM, PW, QF, RD, RE, SJ, HU

Courtyard south of Building 1, under yard surface (5)

CVI (5)	LX/DY, EO, EP, FS, GD, HG, HH

North of Building 1, A, rubble

(3) Area north of building, rubble	LX/FR, GC, GF, GO, GP LB/ACJ, ACT, ACZ, AKH, KO, AAO, AAS, AAT, AAV, AJT, DF, DC, DT
(2) North of room 7, stone spread	LX/HJ
AVI-IX (3)/(7)/(9)	LB/ADV
BX, CX (5)	LB/AAY, ABF, ABG, ABH
BX, CX (7)	LB/ABW, ACM, ACO, ACY, AEE

North of Building 1, B, accumulation during life of Building 1

BX, CX (6)	LB/ADC, ADD, ADE, ADJ, ADP, AEG, AFR, AFU, AEW, AFX, AGD, AGN, AGP, AGU, AED, ABV, ABY, ACN
BX, CX (6)/(12)	LB/AHL, ADT, ADU, AEQ
BX, CX (6)/(11)	LB/AEP, ADQ
AVI - IX (9)	LB/ACH, ACK, ACV, ACX, ADK, ADL, ADR, AKC, ALF, ADW, ADX, AEB, AEC, AEL, AJP, AEM, AEO, AEX, AEZ, AFF, AHE, KN, GE
AVI - IX (9)/(23)	LB/ALG
AVI - IX (4)	LB/AAN, AAW, ACD, ACL, ADA, ADB
AVI - IX (16)	LB/AFV
BVIII, IX (2)	LB/AAD, AAE, AAH, AAJ, AAL, ADZ, AFY, AFM, AFS

North of Building 1, C, yard surface about beginning of Building 1

B VIII, IX (17)	LB/AFO
BX, CX (12)	LB/AGM
BX, CX (11)	LB/AHD
BVIII, IX (20) and (21)	LB/AHM, AHU, AHV
BX, CX (11)/(12)	LB/AJL
BVIII, IX (2)/(20)	LB/AHG
BX, CX (11)/(12)/(13)	LB/AJB

Building 1 area, Ditch

North of Building 1	
Ditch fill (26)	LB/AJZ, AKY
Ditch fill (27)	LB/AKZ, ALZ
BIX (4)	LX/EY, FC
BIX (2)	LX/EX, FD
BIX (3)	LX/FE
BIX (2A)	LX/HD
BIX (3A)	LX/HC
BIX (1A)	LX/EE, EZ, GA, GQ, FV
South of Building 1	
CVIII (2)	LX/CN
CVIII (5)	LX/CV
CVIII (4) and CIX (10)	LX/CO, CP, CS, DZ, GG, GJ, GK, GL, GZ, HU
CIX (12) and (13)	LX/GV, GW

Building 2, Rooms 1-9, rubble

Room 3, rubble	LA/DN
Room 2, robber trench	LA/HD
Rooms 2, 3, and 6, rubble	LA/BC
Room 4, robber trench	LA/HC
Room 6, rubble	LA/DA, DE
Room 9, rubble	LA/DY, CD

Building 2, Rooms 10-13, rubble

Room 10, rubble	LA/CA, AZ
Room 13, above east wall	LA/AX
Room 12, rubble	LA/GV, AW
Rooms 12-13, rubble	LA/FM
Room 12, robber trench	LA/HL

Building 2, Rooms 1-9, occupation

Room 1, above plaster floor	LA/BO, BQ, BR, BT, DU
Room 1, under latest floor	LA/GF
Room 3, above plaster floor	LA/CF, GH
Room 2, above plaster floor	LA/DX
Room 4, under latest floor	LA/HK
Room 5, hypocaust	LA/EZ, FA
Room 9, above plaster floor	LA/FG

Building 2, Rooms 10-13, occupation

Room 10, earth below rubble	LA/CJ
Room 10, burnt layer	LA/ET
Room 12, burnt layer	LA/GU
Room 13, flue through wall in north	LA/JS
Room 12, burnt layer	LA/GW
Room 12, below latest occupation	LA/HM
Room 12, fill	LA/HN
Room 12, below latest floor	LA/HO

Building 2, Wall north-west of Room 12

Occupation under rubble	LA/BH, CC, CM, FK
South of wall above plaster	LA/FB
North of wall	LA/CX, DJ

Building 2, Outside Room 1, rubble

Rubble to south and east	LA/GD, GJ, FN

Building 2, West boundary wall

Burnt patch west of wall	LA/DM, EX, EY, HU, HV
Dark spread west of wall	LA/JE

Building 2, Outside Room 3, rubble

Above drain	LA/JH
In rubble	LA/FL, HR, CP
West boundary wall, rubble east of wall	LA/ED

Building 2, Outside Room 3, below rubble

Below rubble	LA/HT, JF
Stokehole area; dark deposit	LA/HE
Stokehole area; south of east-west wall	LA/JK

Building 2, South and east of Building 3, rubble

South of Building 3	LA/FC, EQ, EP
East of Building 3	LA/CY, FE

Building 3, rubble

Rubble	LB/TU, TV, TY, TZ, UD, UE, UZ, VK, VP, WG
Over rubble	LB/CW

Building 3, occupation

Occupation	LB/UG, VY, VR
Above paving	LA/DR, DZ

Site LC, East of Buildings 4-5

Above F23, gully	LC/FE
East of F23, above F1	LC/CC
Over F1, path	LC/EO, DZ
Outside wall F14 of Building 4	LC/FG
Above F10	LC/CD
Over F34 gravel	LC/FF, FY
Silt above F1	LC/CH

Site LC, North of Building 5

?Above F20	LC/EY
Accumulation against F22	LC/DF
Between F3 and F4	LC/ER, AL, BO
Sealed by F4	LC/DV, EZ

Site LC, Building 4

Above F37	LC/EJ
Above F31	LC/FJ
Section	LC/DP
Build up against F13	LC/EN, EC
Above F29	LC/FK
Above F22	LC/EM

Site LC, West of Buildings 4-5

Above F15	LC/DH, CS
Outside west wall of Building 5	LC/DG

Site LC, Building 5

At foundation of F12	LC/DU
Sealed by F5	LC/DD
(5) beneath rubble	LC/ES
Above F30	LC/FH
Between F12 and F22	LC/DC
Between F5 and F2	LC/CA, BM
Building 5 interior, rubble	LC/FO

Site LX/LM, North and west of Building 6, rubble

DXI NE (7)	LM/GG, HD, HZ, JV
DXII NW (7)	LM/MC, KK
DXI NW (2)	LM/JL, KG
DXI NE (3)	LM/CB, DT, GW, GR, HF
DXI NE (6)	LM/DD, JW
DXI NE (2) and DXI NW (3)	LM/DC, FX, GB
DXI NE (7)	LX/NB
	LM/DG, GV
DXII NW (5)	LM/HH, HR, LO
DXII NW (6)	LM/GS, LA

Site LX/LM, Building 6, rubble

DXII SW (4)	LM/DO, KY, KL, LB
	LX/MC, NG
DXII SW (6)	LM/GM, GA
EXII NW (6)	LM/EN, FA, LM
DXI SE (2) and D XII SW (2)	LM/KC, DP, EP, EZ, EH, LQ, DW, FP, EM, EY, EG, DJ
	LX/ND, MW, NV, MX, MH

Site LX/LM, Building 6, occupation

EXI NE (7) and EXI NW (7)	LM/GF, GK, KM, EO, FL, FO, FV, GQ
EXI NE (8)	LM/EF
EXI NE (6)	LM/GL
EXI NE (5)	LM/GE
EXII NW (12)	LM/MB, MK
EXII NW (13)	LM/MD, MF

Site LX/LM, BXI NE, etc, rubble

BXI NE (2)	LX/JW
BXI NW (2) and BXI NE (3)	LX/JR, JV, KB, KV
BXI NE (5) and BXII NE (5)	LX/NS, KU
BXI NW, SE, SW	LX/LA, LD, KY, KQ, KG, KT, LE

Building 8, rubble

CX SE (2)	LM/HE
CXI SE (3)	LM/DF
CXI SE (4)	LM/EQ
CXI NW (2)	LM/HG, JM
CX NE, rubble	LM/MJ
CX NE, rubble - infant burial	LM/MN, MP

DXII-DXIII, Building 9 rubble

DXII SE (3) rubble	LM/BQ, CD, DS, FK
DXII SE (5)	LM/FB
DXII SE (6), DXIII NW (7)	LM/HJ, FF, HV, KZ
DXIII NW (4)	LM/FE
DXIII NW (3)	LM/EK, FH, JJ, JR
DXIII SW (3)	LM/FG, JP
	LX/MV, NE

DXII-DXIII, Building 9, occupation

DXII NE (3) and DXIII NW (6)	LM/DK, DM, FZ, GO, KF, EX
DXIII SW (5)	LM/GC
DXIII SW (7) paving	LM/GD
DXII NE (4), dark earth	LM/DX, FJ, FY, GP, JK, JN, LN

APPENDIX 3: FORM OCCURRENCES AMONGST THE 37 SITE POTTERY GROUPS

Building 1, Rooms 6-8 and 11, rubble

F11	F11.3
G1	G1.25 (x4) G1.33 Beaded and flanged bowl? Jar?
G22	G22.4
O30	O30.2 Dr 38 style bowl?
R7	R7.1 (x2)
R9	R9.1 R9.4 R9.13
R11	R11.10
S	Dr 31
W10	W10.11

Building 1, Rooms 1, 2, 10, rubble

F11	F11.10
G??	As G2.9
G1	G1.9 G1.25 (x6) G1.33 G1.34 (x2)
G4	G4.8
O30	Dr 38 style bowl?
R9	R9.1 R9.4 (x4) R9.11
R10	R10.5
R11	R11.21 Jar?
R17	R17.1 (x2)
R22	R22.1
S	Dr 31 (x3)
W10	W10.1 W10.11 W10.17

Building 1, Room 9/Verandah, collapse

G1	Jar? (x2) G1.6 G1.9 G1.19
O30	Bowl?
R9	R9.4 R9.10
R11	R11.8
W10	W10.9 Beaded and flanged mortarium? W10.15

Building 1, Rooms 3-5, rubble

F11	F11.2
G1	G1.25 (x3) G1.27 G1.28 G1.38
G4	G4.4
G5	G5.1
G20	G20.1
R7	R7.1
R9	R9.1 R9.13

Building 1, Rooms 1-5, occupation

B1	B1.1
F11	F11.3 (x2)
G1	G1.4 (x2) G1.25 (x12) G1.30 G1.36 G1.38 (x2)
G4	G4.4 (x2)
G5	G5.1 (x2) G5.2
O30	Dr 38 style bowl? Bowl?
R9	R9.2 R9.4 R9.11 R9.13 (x3) R9.15 R9.32
R11	R11.6

Building 1, Rooms 6-8 and 11, occupation

F11	F11.6
G1	G1.1 G1.19 G1.25 (x8) G1.27
G4	G4.9
G5	G5.1
R7	R7.1
R9	Dr 38 style bowl? R9.29
W10	W10.9

Courtyard south of Building 1, rubble

G1	G1.9 G1.25 (x2) G1.38
P1	P1.1
R9	R9.22
S	Dr 37

Courtyard south of Building 1, occupation

G1	G1.4 G1.9 (x3) G1.11 G1.19 G1.25 (x5) G1.28 G1.30 G1.31 G1.32 G1.35 G1.38 (x2)
G2	Jar with undercut rim?
G3	G3.1
G4	G4.4 (x3)
G5	G5.1 (x2) G5.2 G5.3 G5.4 G5.9 G5.11
G10	G10.1
G20	G20.3 G20.4
G21	G21.1
G22	G22.5
M13	M13.1
O12	O12.1
P1	P1.1 (x2)
R4	R4.1
R7	R7.7
R9	R9.10 R9.11 (x2) R9.15 R9.19 R9.22 (x3)
R10	R10.3
R11	R11.6 R11.10
R15	R15.6
W10	W10.2 W10.12

Courtyard south of Building 1, under yard surface (5)

F10	F10.1
G1	G1.9 (x5) G1.25 (x2) G1.31
G21	G21.1
G22	G22.5
M7	M7.1
O30	O30.1
P1	P1.1 (x2) P1.9
R9	R9.11
R11	R11.3 R11.8
R14	R14.1
W10	W10.9

North of Building 1, A, rubble

F11	F11.3
G1	G1.9 (x6) G1.25 (x10) G1.27 G1.31 G1.32
G4	G4.2
G5	G5.1 G5.2
G10	G10.1
G21	G21.1
G22	G22.5 (x2) G22.6 G22.10
P1	Jar? P1.6
R7	R7.1 (x2) R7.6 R7.15 (x2)
R9	R9.3 R9.4 (x2) R9.11 R9.13 R9.24 Dr 38 style bowl? R9.28 R9.31
R11	R11.6 R11.8 R11.24
S	Dr 33
W10	W10.1

North of Building 1, B, accumulation during life of Building 1

A2	A2.1
B1	B1.2
B10	B10.2
F10	F10.1
F11	F11.3 F11.4 F11.10 F11.12
G1	G1.3 G1.5 G1.6 G1.9 (x10) G1.10 G1.18 G1.19 (x3) G1.25 (x11) G1.32 (x2) G1.34 G1.43
G2	G2.5 G2.6
G22	G22.2 G22.3 G22.6 G22.7
M3	M3.1
M4	M4.1
M5	M5.1
O20	O20.1
O30	O30.2
P1	P1.2 P1.5 P1.8 P1.10
R7	R7.1 R7.3 (x2) R7.8 R7.16
R9	R9.1 R9.3 (x2) R9.4 (x8) R9.11 (x9) R9.14 R9.18 R9.21 R9.26 R9.29 R9.32 (x3) R9.35 Dr 38 style bowl?
R10	R10.4 R10.5
R11	R11.1 R11.5 R11.8 R11.9 (x2) R11.11 R11.25 (x2) R11.26
R15	R15.2
R31	R31.2
S	Dr 31 (x3) Dr 38 Dish Dr 32 Dr 33
W10	W10.4 W10.10 (x2) W10.11 (x2) W10.14 W10.15

North of Building 1, C, yard surface about beginning of range

O10	O10.1
R7	R7.3 R7.9

Building 1 area, ditch

G22	G22.5
M8	M8.1
P1	P1.2 P1.3 P1.8
R1	R1.1
P2	P2.1
R9	Jar?
R11	R11.2
R42	R42.1
S	Dr 31

Building 2, Rooms 1-9, rubble

G1	G1.14 G1.19 G1.25
O30	Dr 38 style bowl?
R7	R7.1
R9	Flanged bowl? R9.4
R11	R11.23
S	Dr 31

Building 2, Rooms 10-13, rubble

G1	G1.1 G1.19 G1.25 (x7) G1.27 Jar?
G2	G2.9
G4	G4.4
G21	G21.1
G22	G22.5 (x3) Jar??
O30	O30.2 (x3)
R7	R7.7 R7.10
R9	R9.4 (x2) Flanged bowl? R9.22 (x4) R9.24
R11	R11.18
R15	R15.3
W1	Small jar?
W10	Dr 38 style bowl? W10.2

Building 2, Rooms 1-9, occupation

A2	A2.1
G1	G1.3 G1.9 G1.15 G1.25 (x6) G1.28
O1	O1.1
R7	R7.13 R7.15 R7.17
R9	Flanged bowl? R9.14 R9.24
R11	R11.7
W10	W10.11

Building 2, Rooms 10-13, occupation

G1	G1.25 (x5)
G22	Jar?
Q1	Q1.1
R7	R7.12
R9	R9.4 (x6) Flanged bowl? R9.22 (x2) R9.23
R10	R10.2
W10	W10.1 W10.8

Building 2, Wall north-west of Room 12

F11	F11.7 (x2)
G1	G1.14 G1.25 (x3) Shouldered jar?
G2	G2.4 (x2) G2.9
G5	G5.5
G22	G22.4
R9	R9.4 (x3) R9.11 R9.22 R9.30
R31	R31.3
W10	W10.9

Building 2, Outside Room 1, rubble

B10	B10.1
G1	G1.25 (x4) G1.30 (x2) G1.31 (x3)
G2	G2.1 G2.2 (x2) G2.8 G2.9
G4	G4.5
G22	G22.1 G22.5
R6	Jar?
R7	R7.3
R9	R9.4 (x2) R9.11 R9.13 R9.22 R9.26 R9.32 R9.36
W10	W10.11

Building 2, West boundary wall

G1	G1.25 (x6) G1.31
G2	G2.10
P1	P1.1
Q1	Jar?
R9	R9.4 Flanged bowl?? Dish? R9.11 R9.13 R9.16 R9.18 R9.22
R11	R11.10 R11.20 R11.22 R11.23

Building 2, Outside Room 3, rubble

F11	F11.10
G1	G1.5 G1.12 G1.23 G1.25 (x2) G1.27 G1.28 G1.31
G4	G4.4
R7	R7.1
R9	R9.4 (x3) R9.11 (x2) R9.15 R9.22 Jar? Dish? R9.24
W10	W10.11

Building 2, Outside Room 3, below rubble

B10	Bowl?
G1	G1.8 G1.14 (x2) G1.25 (x13) G1.30 Jar?
G2	G2.9
G4	G4.4
G5	G5.2
M5	M5.2
M14	M14.1
R9	R9.4 (x4) R9.11 R9.22 R9.27 Everted rimmed jar?
R11	R11.9
S	Dr 30/37
W10	W10.11

Building 2, South and east of Building 3, rubble

F11	F11.3 F11.9
G1	G1.25 (x6) G1.31
G2	G2.9
G4	G4.3 G4.4 (x2)
G21	G21.1 (x2) G21.3
G22	G22.5
O14	O14.1
R7	R7.11
R9	R9.8 R9.22 R9.24 (x2)
R11	R11.16 Bead rimmed bowl?
S	Dr 45 Dr 31
W10	Beaded and flanged mortarium?

Building 3, rubble

F11	F11.1 F11.10
G1	G1.1 G1.3 G1.16 G1.19 G1.22 G1.25 (x24) G1.30 (x2) G1.31 G1.34 Jar?
G2	G2.6
G4	G4.4
G5	G5.2 (x2) G5.6
G21	G21.2
G22	G22.5 G22.6
R7	R7.7
R9	R9.4 (x7) R9.8 R9.13 (x2) R9.22 (x2)
R15	R15.5
S	Dr 31
W10	W10.6 W10.7 W10.11 W10.16 (x2) W10.17

Building 3, occupation

F11	F11.3 F11.5 F11.8
G1	G1.3 (x2) G1.25 (x8) G1.28 G1.31 G1.36
O30	O30.3
R7	R7.1 R7.9 (x2) R7.10
R9	R9.4 (x3) R9.10 R9.11 (x3) R9.17 R9.34
R15	R15.4
W10	Dr 38 style bowl? W10.7 W10.9 W10.11

Site LC, East of Buildings 4-5

G1	G1.3 (x2) G1.6 G1.9 G1.19 G1.20 G1.25 (x14) G1.32 G1.34 G1.37 G1.43 Undercut rimmed jar?
G2	G2.7
G4	G4.7
G5	G5.6
G22	G22.5 (x2) G22.8
O30	Dr 38 style bowl?
P1	P1.1 P1.11
R9	R9.3 R9.4 (x3) R9.11 R9.13 R9.27 (x2) R9.32
W10	Wall-sided mortarium? Dr 38 style bowl?

Site LC, North of Building 5

F11	F11.11
G1	G1.10 G1.25 (x9) Shouldered jar? G1.31
G2	G2.1
G4	G4.11
G5	G5.2 G5.10
M11	M11.1
O30	Dr 38 style bowl?
P1	P1.4
R9	R9.2 R9.4 R9.6 R9.7 R9.13 R9.22 Flanged bowl? (x2)
R11	R11.8 R11.10 R11.14 R11.23
R31	R31.1
W10	W10.6

Site LC, Building 4

G1	G1.25 (x8) G1.30 (x2)
G4	G4.10
G22	G22.9
O11	O11.1
R9	R9.13 R9.25
W10	W10.9 W10.16

Site LC, West of Buildings 4-5

G1	G1.9 G1.19 G1.25(2) G1.34
G22	G22.5 (x3)
O30	Bowl?
R9	R9.3 R9.4 R9.32
W10	Mortarium?

Site LC, Building 5

F11	F11.8
G1	G1.2 G1.19 G1.25 (x9) G1.30 G1.31 G1.34 (x3) G1.40 G1.41 Jar?
G5	G5.2 (x2)
R7	R7.1 (x3) R7.18
R8	R8.2
R9	R9.2 R9.4 (x3) R9.27 Flanged bowl? R9.33
R11	R11.15 (x2) R11.19
W10	W10.5 W10.7

Site LX/LM, North and west of Building 6, rubble

F11	F11.3
G1	G1.3 G1.19 G1.25 (x5) G1.26 G1.31 G1.34 G1.35 (x2)
G20	G20.2
G22	G22.5
R6	R6.2
R8	R8.1
R7	R7.1
R9	R9.4 (x3)
W10	Wall-sided mortarium? W10.9

Building 6, rubble

G1	G1.3 G1.5 G1.7 G1.9 G1.24 G1.25 (x31) G1.27 G1.28 G1.29 G1.30 (x7) G1.31 G1.38 G1.39
G4	G4.4 (x3)
G5	Jar? G5.7 (x2)
O3	O3.1
P1	P1.7
R6	R6.2
R7	R7.4 R7.5 Flanged bowl?
R9	R9.4 (x11) R9.13 R9.22 R9.24 R9.32
R11	R11.23
W10	W10.1 W10.6 W10.9 W10.11 Dr 38 style bowl?

Building 6, occupation

B1	B1.3 Jar?
F11	F11.12
G1	G1.3 (x2) G1.21 G1.25 (x8)
G2	G2.1
R7	R7.2 R7.4
R9	R9.4 (x2) R9.32 (x2)
R20	R20.1

Site LX/LM, BXI NE, etc, rubble

A2	A2.1
G1	G1.3 (x2) G1.9 G1.17 G1.19 G1.25 (x18) G1.30 G1.31 G1.42
G2	G2.3
G4	G4.4 G4.5
G5	G5.1 G5.2 G5.5 G5.8
W10	W10.3 W10.7 W10.12
O30	O30.3
P1	P1.1
R7	R7.14
R9	R9.4 (x3) R9.5 R9.11 R9.13 (x3) R9.32 Undercut rimmed jar?
R10	R10.1
R11	R11.4 R11.8 (x2) R11.13

Building 8, rubble

G1	G1.25 (x4)
G22	G22.6
W10	W10.11

DXII-DXIII, Building 9, rubble

F11	F11.7
G1	G1.9 G1.19 (x2) G1.25 (x4) G1.26 G1.30 (x2) G1.31 (x5)
G4	G4.6
M1	M1.1
M10	M10.1
R9	R9.4 (x3) R9.10 R9.12 R9.22 R9.32
R11	R11.6 (x2) R11.12 Jar?
W10	W10.4 Dr 38 style bowl? W10.5

DXII-DXIII, Building 9, occupation

F11	F11.7 (x2)
G1	G1.2 G1.3 (x2) G1.13 G1.19 (x2) G1.25 Jar? G1.31 G1.32 (x2) G1.33 G1.34 G1.35 G1.44
G4	G4.1
G5	G5.2
R6	R6.1
R7	R7.1
R9	R9.3 R9.4 (x3) R9.6 R9.11 (x2) R9.13 R9.20 R9.22 R9.27 R9.32 Flanged bowl?
R11	R11.3 R11.6 R11.17 R11.27
R15	R15.1
W10	W10.9 W10.13 Beaded and flanged mortarium?

APPENDIX 4: POTTERY FABRIC PERCENTAGES

Building 1, Rooms 6-8 and 11, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
F11	1.7	3.5	5.3	5.4	11.8
G1	65.7	55.6	36.8	29.7	36.2
G2	0.6	1.4	0	2.7	0
G4	0.6	0.5	0	2.7	0
G5	5.7	1.6	0	8.1	0
G22	4.0	1.4	5.3	2.7	0
O30	2.9	2.9	10.5	5.4	5.4
R9	9.1	19.0	15.8	18.9	23.5
R6	0.6	0.3	0	2.7	0
R7	5.7	11.4	10.5	5.4	19.9
R10	0.6	0.1	0	2.7	0
R11	1.1	0.8	5.3	5.4	0
S	1.1	0.3	5.3	5.4	0
W10	0.6	1.1	5.3	2.7	3.2
n	175	3949	19	37	221

Building 1, Rooms 1, 2, 10, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B10	0.3	0.2	0	1.4	0
B11	0.3	0.1	0	1.4	0
F11	1.5	1.2	3.0	2.7	6.9
G1	56.7	53.6	30.3	20.3	38.2
G2	0.6	0.3	0	2.7	0
G4	6.8	21.6	3.0	8.1	10.6
G5	4.5	2.3	0	2.7	0
G20	0.3	0.1	0	1.4	0
G21	0.3	0.0	0	1.4	0
G22	0.6	1.0	0	2.7	0
O4	0.3	0.2	0	1.4	0
O11	0.6	0.5	0	2.7	0
O30	2.4	0.4	3.0	1.4	0
P1	3.0	0.7	0	1.4	0
Q1	0.3	0.1	0	1.4	0
R6	0.3	0.0	0	1.4	0
R9	10.4	6.8	18.2	17.6	14.5
R10	1.2	0.6	3.0	4.1	0
R11	3.0	2.4	9.1	6.8	4.3
R12	0.3	0.4	0	1.4	0
R15	0.3	0.1	0	1.4	0
R16	0.3	0.1	0	1.4	0
R17	0.6	0.5	6.1	2.7	3.7
R22	2.7	1.0	3.0	1.4	2.4
S	0.9	0.6	9.1	4.1	4.3
W10	1.5	5.3	9.1	4.1	15.1
n	337	6495	33	74	463

Building 1, Room 9/Verandah, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
F11	4.3	1.3	0	9.8	0
G1	57.4	40.3	41.7	33.3	44.7
G2	9.2	8.0	0	3.9	0
G5	0.7	0.2	0	2.0	0
O3	0.7	0.1	0	2.0	0
O30	0.7	1.0	8.3	2.0	8.8
R6	1.4	1.6	0	3.9	0
R9	9.9	15.2	16.7	15.7	18.4
R11	4.3	2.6	8.3	7.8	7.9
R15	2.8	1.6	0	3.9	0
R20	4.3	3.6	0	3.9	0
R40	0.7	0.9	0	2.0	0
S	0.7	0.2	0	2.0	0
W10	2.8	23.6	25.0	7.8	20.2
n	141	1755	12	51	114

Building 1, Rooms 3-5, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B1	0.4	0.0	0	2.4	0
F11	1.9	0.2	7.7	9.8	7.8
G1	70.0	68.4	46.2	31.7	40.0
G2	1.5	0.6	0	7.3	0
G3	0.4	0.1	0	2.4	0
G4	8.6	16.5	7.7	7.3	6.7
G5	3.8	2.3	7.7	4.8	4.4
G20	0.7	0.5	7.7	2.4	4.4
G22	0.4	0.1	0	2.4	0
O3	1.1	0.4	0	2.4	0
R7	3.0	4.1	7.7	4.9	7.8
R9	7.1	5.1	15.4	14.6	28.9
R11	0.4	0.9	0	2.4	0
R15	0.4	0.6	0	2.4	0
R22	0.4	0.1	0	2.4	0
n	267	4740	13	41	180

Building 1, Rooms 1-5, occupation

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B1	0.5	0.2	2.7	3.4	0
F11	0.9	1.1	5.4	5.2	6.9
G4	22.5	23.6	5.4	10.3	7.8
G5	1.9	0.9	10.8	8.6	7.0
G1	63.4	66.0	45.9	39.7	61.9
O30	1.1	0.4	5.4	3.4	0
R7	0.2	0.1	0	1.7	0
R9	8.6	7.1	21.6	22.4	15.0
R10	0.5	0.1	0	1.7	0
R11	0.5	0.5	2.7	3.4	1.4
n	440	11979	37	58	695

Building 1, Rooms 6-8 and 11, occupation

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
F11	2.8	0.3	5.6	8.1	3.2
G1	87.9	87.6	61.1	45.9	82.0
G4	2.8	5.0	5.6	5.4	5.4
G5	1.7	1.6	5.6	8.1	2.5
O30	0.3	0.8	0	2.7	0
R7	1.0	1.0	5.6	2.7	0
R9	2.4	2.9	11.1	18.9	4.7
R10	0.3	0.2	0	2.7	0
W10	0.7	0.6	5.6	5.4	2.2
n	290	5825	18	37	317

Courtyard south of Building 1, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B1	1.7	1.0	0	9.5	0
G1	78.4	86.8	62.5	33.3	79.2
G4	6.0	3.7	0	9.5	0
G5	2.6	2.5	0	4.8	0
G20	1.7	0.4	0	4.8	0
G22	0.9	0.7	0	4.8	0
P1	0.9	2.5	12.5	4.8	13.0
R9	3.4	1.0	12.5	9.5	7.8
R11	2.6	0.8	0	9.5	0
S	0.9	0.3	12.5	4.8	0
W10	0.9	0.3	0	4.8	0
n	116	2619	8	21	77

Courtyard south of Building 1, occupation

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
A2	0.3	0.9	0	1.3	0
F10	0.3	0.0	0	1.3	0
F11	3.9	0.7	0	8.9	0
G1	50.5	53.7	32.7	22.8	43.2
G2	0.3	0.1	1.8	1.3	0.0
G3	0.3	0.2	1.8	1.3	0
G4	7.3	10.1	5.5	5.1	4.2
G5	5.8	4.3	12.7	8.9	16.0
G10	1.3	0.4	1.8	1.3	1.5
G20	1.8	0.6	3.6	2.5	5.3
G21	0.3	0.1	1.8	1.3	1.3
G22	1.6	1.0	1.8	2.5	0.8
M13	0.3	0.5	1.8	1.3	0.6
O12	0.5	0.6	1.8	1.3	0.6
O30	0.8	0.5	0	1.3	0
P1	1.3	0.5	3.6	2.5	1.0
R4	0.3	0.1	1.8	1.3	1.0
R6	0.3	0.1	0	1.3	0
R7	0.5	0.6	1.8	2.5	1.6
R9	14.7	15.6	14.5	10.1	12.3
R10	0.8	0.5	1.8	2.5	2.8
R11	4.7	3.5	3.6	8.9	4.4
R15	0.5	0.2	1.8	2.5	0
R21	0.3	0.1	0	1.3	0
W10	1.6	5.0	3.6	5.1	3.4
n	382	8858	55	79	618

Courtyard south of Building 1, under yard surface (5)

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
A2	1.0	3.6	0	1.8	0
B1	2.5	1.5	0	1.8	0
F10	4.6	0.5	4.8	3.6	0
F11	4.6	0.8	0	8.9	0
G1	32.5	33.9	38.1	14.2	52.1
G2	1.0	2.6	0	1.8	0
G4	1.5	0.9	0	3.6	0
G5	0.5	0.5	0	1.8	0
G21	2.5	6.5	4.8	1.8	13.2
G22	3.6	3.2	4.8	1.8	0
M7	1.0	2.3	4.8	1.8	0
O1	1.0	0.1	0	3.6	0
O30	4.6	1.2	4.8	3.6	6.6
P1	9.6	7.9	14.3	5.4	20.7
Q1	1.5	2.5	0	5.4	0
R6	1.5	0.8	0	5.4	0
R9	9.1	14.4	4.8	8.9	4.1
R10	0.5	0.3	0	1.8	0
R11	12.2	5.8	9.5	10.7	0
R14	0.5	1.0	4.8	1.8	0
R40	1.5	4.1	0	1.8	0
S	1.0	3.2	0	3.6	0
W10	1.5	2.4	4.8	5.4	3.3
n	197	1455	21	56	121

North of Building 1, A, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B1	0.3	0.1	0	0.9	0
F10	0.3	0.0	0	0.9	0
F11	3.4	2.6	2.0	6.8	0
G1	41.2	39.0	37.3	19.7	44.2
G4	5.8	7.2	2.0	6.8	2.1
G5	5.5	5.5	4.0	6.0	4.7
G10	0.3	0.1	2.0	0.9	0
G21	0.7	0.4	2.0	0.9	1.1
G22	4.1	6.4	7.8	4.3	14.1
M2	0.3	0.4	2.0	0.9	0
M10	0.7	4.6	0	0.9	0
O3	0.3	0.1	0	0.9	0
O13	0.7	0.1	0	0.9	0
O15	0.3	0.1	0	0.9	0
O30	1.0	0.1	0	2.6	0
P1	2.7	0.9	3.9	2.6	1.0
Q1	0.7	0.1	0	1.7	0
R5	0.3	0.2	0	0.9	0
R6	0.3	0.2	0	0.9	0
R7	4.5	9.5	9.8	8.5	9.3
R9	13.4	13.7	17.6	12.0	18.8
R10	0.3	0.2	0	0.9	0
R11	5.5	2.9	5.9	6.0	1.6
R14	0.3	1.4	0	0.9	0
R15	0.7	0.6	0	0.9	0
R40	1.4	1.1	0	0.9	0
S	1.7	0.3	2.0	4.3	1.1
W10	2.7	2.2	2.0	6.0	1.9
n	291	5006	51	117	616

North of Building 1, B, accumulation during life of Building 1

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
A2	0.9	4.1	0.8	1.3	1.0
A10	3.3	2.0	0	0.8	0
A20	0.3	0.3	0	0.8	0
B1	0.1	0.1	0.8	0.4	0.6
B10	0.1	0.0	0	0.4	0
F10	0.3	0.0	0.8	0.8	0.4
F11	3.3	1.7	3.3	5.9	3.6
G1	30.0	27.6	27.5	16.5	21.3
G2	2.4	1.8	1.7	2.5	1.5
G4	1.0	1.0	0	1.7	0
G5	0.9	0.5	0	2.1	0
G10	0.1	0.0	0	0.4	0
G22	2.6	2.0	3.3	3.4	3.2
M3	0.1	1.5	0.8	0.4	1.1
M4	0.7	0.9	0.8	0.4	0.9
M5	0.1	0.4	0.8	0.4	0.4
O13	0.7	0.1	0	0.8	0
O20	0.3	0.2	0.8	0.8	0.9
O30	0.4	0.3	0.8	0.8	0.9
P1	1.9	1.2	3.3	2.5	1.7
Q1	0.4	0.1	0	1.3	0
R3	0.1	0.0	0	0.4	0
R6	0.3	0.3	0	0.8	0
R7	4.1	6.4	5.0	3.8	6.3
R8	0.1	0.0	0	0.4	0
R9	14.4	17.6	24.2	16.9	24.8
R10	2.3	1.7	1.7	3.4	0.9
R11	13.5	11.9	9.1	10.5	16.0
R15	1.1	1.8	0.8	2.1	1.7
R16	4.4	1.8	0	1.7	0
R20	0.3	0.0	0	0.4	0
R23	0.1	0.0	0	0.4	0
R31	1.3	0.5	0.8	0.4	0.9
R40	0.6	0.2	0	0.8	0
R41	0.6	0.5	0	0.4	0
S	3.5	4.0	5.8	8.0	5.1
W10	3.0	7.4	6.7	4.6	7.0
n	700	13044	120	237	1628

North of Building 1, C, yard surface about beginning of Building 1

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B1	2.1	0.7	0	3.1	0
F10	4.3	1.0	0	3.1	0
F11	4.3	4.7	0	6.3	0
G1	8.5	5.0	0	12.5	0
G4	2.1	3.7	0	3.1	0
G22	2.1	3.4	0	3.1	0
M13	2.1	4.0	0	3.1	0
O10	2.1	6.2	33.3	3.1	17.9
R7	14.9	22.8	66.7	15.6	82.1
R9	12.8	19.0	0	6.3	0
R10	4.3	3.2	0	6.3	0
R11	25.5	13.8	0	12.5	0
R15	4.3	4.6	0	6.3	0
R31	2.1	0.3	0	3.1	0
R40	2.1	0.9	0	3.1	0
S	6.4	6.6	0	9.4	0
n	47	696	3	32	56

Building 1 area, Ditch

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B1	0.6	0.2	0	2.6	0
F10	1.7	0.1	0	2.6	0
G1	0.6	0.9	0	2.6	0
G22*	1.1	0.7	9.1	5.1	4.9
M8	0.6	4.0	9.1	2.6	4.9
O1	0.6	0.1	0	2.6	0
P1	64.6	68.9	27.3	30.8	48.8
P2	11.0	10.8	9.1	2.6	18.7
Q1	1.1	0.4	0	5.1	0
R9*	0.6	0.1	9.1	2.6	3.0
R10	2.8	2.3	0	2.6	0
R11	9.9	6.8	18.2	20.5	14.3
R20	0.6	0.1	0	2.6	0
R42	0.6	1.0	9.1	2.6	0
S	3.9	3.6	9.1	12.8	5.4
n	181	3107	11	39	203

* - Intrusive

Building 2, Rooms 1-9, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
A2	1.3	4.9	0	2.4	0
B11	1.3	1.0	0	2.4	0
G1	45.5	38.4	36.4	29.3	21.7
G5	7.8	5.7	0	7.3	0
O13	1.3	0.1	0	2.4	0
O30	1.3	3.2	9.1	2.4	14.8
R7	5.2	11.6	9.1	4.9	13.9
R8	2.6	5.1	0	2.4	0
R9	23.4	28.1	27.3	29.3	36.5
R10	3.9	0.7	0	4.9	0
R11	2.6	0.6	9.1	4.9	7.8
S	2.6	0.3	9.1	4.9	5.2
W10	1.3	0.3	0	2.4	0
n	77	1751	11	41	115

Building 2, Rooms 10-13, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
F11	2.3	0.3	0	4.8	0
G1	31.1	31.8	30.6	22.2	34.7
G2	1.5	0.7	2.8	1.6	4.1
G4	2.3	2.7	2.8	3.2	1.7
G5	1.5	4.5	0	1.6	0
G10	0.8	0.3	0	1.6	0
G21	0.8	0.2	2.8	1.6	0
G22	3.8	5.1	11.1	6.3	16.9
O30	2.3	3.0	8.3	4.8	5.0
Q1	0.8	0.7	0	1.6	0
R7	3.0	0.6	5.6	4.8	2.0
R9	36.4	22.1	22.2	23.8	23.6
R11	6.1	15.6	2.8	9.5	4.4
R15	0.8	0.2	2.8	1.6	3.5
W1	0.8	0.2	2.8	1.6	0
W10	6.1	12.2	5.6	9.5	4.1
n	132	3078	36	63	343

Building 2, Rooms 1-9, occupation

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
A2	2.7	18.1	5.0	2.9	15.0
G1	65.3	57.6	50.0	38.2	48.8
G4	1.3	1.1	0	2.9	0
G5	1.3	1.2	0	2.9	0
G10	1.3	0.1	0	2.9	0
O1	1.3	0.2	5.0	2.9	6.6
R7	6.7	6.7	15.0	14.7	13.0
R9	16.0	5.6	15.0	23.5	6.0
R11	2.7	1.5	5.0	5.9	2.0
W10	1.3	8.0	5.0	2.9	8.6
n	75	3015	20	34	301

Building 2, Rooms 10-13, occupation

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
F11	0.4	0.1	0	2.0	0
G1	55.9	60.4	27.3	32.7	26.7
G4	1.1	1.1	0	4.1	0
G5	1.5	0.9	0	6.1	0
G22	0.4	0.3	4.5	2.0	0
Q1	0.4	0.2	4.5	2.0	4.0
R7	0.7	0.7	4.5	2.0	9.9
R9	31.7	27.3	45.5	34.7	47.6
R10	0.7	0.5	4.5	2.0	3.3
S	0.4	0.2	0	2.0	0
W10	7.1	8.3	9.1	10.2	8.4
n	281	5251	22	49	273

Building 2, Wall north-west of Room 12

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
A2	2.0	6.8	0	2.1	0
B1	0.7	0.2	0	2.1	0
F11	3.4	0.3	10.0	8.3	9.4
G1	32.7	39.3	25.0	27.1	22.6
G2	9.5	12.5	15.0	8.3	18.4
G4	9.5	6.2	0	6.3	0
G5	10.2	9.5	5.0	2.1	27.4
G22	2.0	0.9	5.0	2.1	1.9
R9	22.4	15.8	30.0	25.0	16.5
R11	2.0	1.1	0	2.1	0
R31	0.7	0.1	5.0	2.1	0
R41	0.7	2.8	0	2.1	0
S	1.4	0.6	0	4.2	0
W1	0.7	0.2	0	2.1	0
W10	2.0	3.7	5.0	4.2	3.8
n	147	3311	20	48	266

Building 2, Outside Room 1, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B1	0.5	1.0	0	1.5	0
B10	1.1	0.3	3.6	2.9	0
F11	2.2	0.9	0	4.4	0
G1	31.0	31.4	32.1	41.2	31.2
G2	6.5	5.1	14.3	8.8	12.2
G4	1.6	3.2	3.6	2.9	6.6
G5	2.7	1.6	0	1.5	0
G22	15.2	15.0	7.1	2.9	18.8
R6	0.5	0.2	3.6	1.5	0
R7	0.5	1.3	3.6	1.5	4.3
R9	32.1	32.6	28.6	22.1	22.3
R11	2.7	1.8	0	4.4	0
R16	1.6	2.7	0	1.5	0
S	1.1	0.2	0	1.5	0
W10	0.5	2.5	3.6	1.5	4.6
n	184	4089	28	68	394

Building 2, West boundary wall

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B1	1.0	0.4	0	2.4	0
F10	1.0	0.1	0	2.4	0
F11	1.0	0.2	0	2.4	0
G1	16.2	21.2	31.8	16.7	47.5
G2	2.9	1.3	4.5	4.8	0
G4	1.9	4.5	0	2.4	0
G5	5.7	7.7	0	4.8	0
G22	1.9	2.6	0	2.4	0
O30	1.9	1.4	0	2.4	0
P1	1.0	1.6	4.5	2.4	7.9
Q1	1.0	0.3	4.5	2.4	0
R2	1.0	0.2	0	2.4	0
R9	51.4	49.9	36.4	31.0	20.9
R10	1.0	1.4	0	2.4	0
R11	9.5	5.8	18.1	14.3	23.7
R15	1.0	1.3	0	2.4	0
W10	1.0	0.3	0	2.4	0
n	105	1865	22	42	177

Building 2, Outside Room 3, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B1	0.6	0.1	0	2.3	0
B10	1.8	0.6	0	2.3	0
F11	14.1	7.7	4.5	9.1	9.1
G1	31.8	40.9	36.4	27.3	36.8
G4	7.1	7.8	4.5	4.5	0
R2	0.6	0.0	0	2.3	0
R7	0.6	1.4	4.5	2.3	2.9
R9	37.1	35.6	45.5	34.1	44.5
R10	1.8	1.2	0	4.5	0
R11	0.6	0.2	0	2.3	0
R16	2.4	2.0	0	2.3	0
S	0.6	0.0	0	2.3	0
W10	1.2	2.4	4.5	4.5	6.7
n	170	4008	22	44	209

Building 2, Outside Room 3, below rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B10	1.4	0.1	2.7	1.7	0
F10	1.4	0.1	0	1.7	0
F11	3.5	0.6	0	5.1	0
G1	54.2	60.6	54.1	35.6	73.2
G2	3.5	2.1	2.7	3.4	0
G4	4.2	3.7	2.7	3.4	0
G5	2.1	1.6	2.7	5.1	7.5
M5	0.7	4.1	2.7	1.7	0
M14	0.7	1.5	2.7	1.7	1.8
R9	15.3	15.0	20.6	18.6	14.3
R10	2.8	1.2	0	3.4	0
R11	2.1	0.9	2.7	3.4	0
R13	0.7	0.0	0	1.7	0
R15	0.7	0.6	0	1.7	0
R16	1.4	3.0	0	3.4	0
R20	0.7	0.4	0	1.7	0
R30	0.7	0.5	0	1.7	0
S	0.7	0.1	2.7	1.7	0
W10	3.5	3.9	2.7	3.4	3.2
n	144	3159	37	59	280

Building 2, South and east of Building 3, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
A1	0.5	1.4	0	1.9	0
F11	5.7	0.4	7.1	7.5	4.6
G1	51.4	66.3	25.0	18.9	48.5
G2	0.5	0.1	3.6	1.9	0
G4	9.4	12.0	10.7	9.4	6.9
G5	0.5	0.3	0	1.9	0
G21	1.9	0.8	10.7	5.7	10.8
G22	3.3	1.3	3.6	3.8	5.2
O14	0.5	0.8	3.6	1.9	0
Q1	0.5	0.0	0	1.9	0
R7	0.9	3.3	3.6	1.9	4.9
R9	15.1	8.3	14.3	15.1	16.7
R11	5.7	2.7	7.1	18.9	2.3
R16	0.5	0.3	0	1.9	0
S	1.9	0.5	7.1	3.8	0
W10	1.9	1.5	3.6	3.8	0
n	212	7805	28	53	305

Building 3, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B10	0.2	0.0	0	1.1	0
F11	1.9	1.1	3.1	4.3	5.1
G1	67.4	65.3	53.1	40.4	54.7
G2	0.9	0.3	1.6	1.1	1.0
G4	1.9	1.1	1.6	4.3	0
G5	4.2	2.7	4.7	3.2	5.2
G21	0.4	0.1	1.6	2.1	0.9
G22	2.3	0.8	3.1	3.2	2.0
O30	0.2	0.6	0	1.1	0
O14	0.2	0.1	0	1.1	0
R7	2.3	2.2	0	5.3	0
R9	11.8	14.3	18.8	17.0	16.2
R11	1.9	1.6	0	4.3	0
R15	1.1	0.8	1.6	2.1	2.0
S	0.2	0.0	1.6	1.1	0
W10	3.3	9.0	9.4	8.5	12.8
n	570	14623	64	94	1034

Building 3, occupation

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
A2	0.9	0.5	0	1.7	0
B1	0.9	0.2	0	3.4	0
F11	2.8	0.6	8.6	8.6	6.6
G1	65.0	63.8	37.1	27.6	42.7
G4	4.6	3.9	0	6.9	0
O30	1.4	1.3	2.9	3.4	2.8
R7	4.6	4.9	11.4	10.3	17.5
R9	11.5	16.3	25.7	20.7	16.4
R10	1.4	0.6	0	3.4	0
R11	0.5	0.1	0	1.7	0
R15	2.8	0.5	2.9	3.4	1.1
W10	3.7	7.3	11.4	8.6	12.8
n	217	7332	35	58	633

Site LC, East of Buildings 4-5

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
F11	0.5	0.2	0	1.2	0
G1	45.0	50.0	55.6	32.1	59.8
G2	0.5	0.6	2.2	1.2	1.5
G4	2.7	2.4	2.2	3.6	1.9
G5	4.5	4.3	2.2	4.8	1.5
G21	4.1	2.2	0	1.2	0
G22	4.5	5.0	6.7	7.1	11.1
M6	0.5	4.4	0	1.2	0
M13	0.5	2.6	0	1.2	0
O3	0.5	0.1	0	1.2	0
O30	0.5	1.1	2.2	1.2	3.9
P1	11.3	6.1	4.4	3.6	0
Q1	0.5	0.2	0	1.2	0
R6	0.5	0.7	0	1.2	0
R9	17.1	15.9	20.0	20.2	17.9
R10	0.5	0.1	0	1.2	0
R11	4.1	2.3	0	9.5	0
R14	0.5	0.3	0	1.2	0
R30	0.5	0.2	0	1.2	0
S	0.5	0.0	0	1.2	0
W10	1.4	1.5	4.4	3.6	2.4
n	222	3974	45	84	413

Site LC, North of Building 5

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
A2	0.5	0.7	0	1.4	0
B1	0.5	0.1	0	1.4	0
F11	1.4	0.2	2.9	4.3	1.6
G1	42.0	33.8	35.3	24.6	24.5
G2	0.5	0.2	2.9	1.4	1.8
G3	0.5	0.2	0	1.4	0
G4	12.3	28.5	2.9	1.4	6.1
G5	10.8	6.0	5.8	8.7	5.8
G22	1.4	0.7	0	2.9	0
M11	0.5	1.0	2.9	1.4	0
O30	0.5	0.3	2.9	1.4	2.6
P1	0.5	0.5	2.9	1.4	2.6
Q1	0.5	0.1	0	1.4	0
R9	17.0	18.8	20.6	21.7	38.4
R11	7.5	5.0	14.7	15.9	12.1
R15	0.5	0.1	0	1.4	0
R16	0.9	0.7	0	1.4	0
R31	0.5	0.3	2.9	1.4	1.6
W10	1.9	2.7	2.9	4.3	2.9
n	212.0	4585.0	34.0	69.0	380.0

Site LC, Building 4

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
F11	2.4	1.9	0	7.0	0
G1	59.4	58.4	58.8	27.9	72.9
G4	13.9	17.0	5.9	9.3	4.4
G20	0.6	0.1	0	2.3	0
G21	0.6	0.4	0	2.3	0
G22	1.2	1.3	5.9	4.7	11.1
O11	0.6	0.1	5.9	2.3	0
R6	0.6	0.1	0	2.3	0
R9	16.4	9.3	11.8	27.9	3.1
R10	0.6	1.0	0	2.3	0
R11	1.2	6.1	0	4.7	0
W10	2.4	4.4	11.8	7.0	8.4
n	165	3855	17	43	225

Site LC, West of Buildings 4-5

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
G1	32.3	34.4	38.5	29.4	21.3
G22	9.7	16.3	23.1	17.6	25.2
O30	6.5	11.2	7.7	5.9	3.9
R9	41.9	25.9	23.1	29.4	49.7
R11	3.2	2.7	0	5.9	0
R41	3.2	6.9	0	5.9	0
W10	3.2	2.5	7.7	5.9	0
n	31	668	13	17	155

Site LC, Building 5

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
F11	3.6	0.5	2.6	7.8	1.8
G1	51.3	55.8	48.7	32.5	45.5
G2	0.5	0.1	0	1.3	0
G4	1.0	2.2	0	2.6	0
G5	4.1	2.3	5.1	5.2	4.7
G21	0.5	0.1	0	1.3	0
G22	2.0	0.7	0	2.6	0
R7	4.1	5.3	10.3	6.5	7.8
R8	1.5	2.2	2.6	1.3	8.5
R9	23.4	19.2	17.9	26.0	11.6
R10	0.5	1.2	0	1.3	0
R11	5.1	6.8	7.7	5.2	13.6
R16	0.5	1.0	0	1.3	0
W10	2.0	2.4	5.1	5.2	6.5
n	197	5343	39	77	448

Site LX/LM, North and west of Building 6, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
F11	3.6	2.7	4.3	11.1	0
G1	62.0	75.1	47.8	26.4	80.2
G4	0.4	0.5	0	1.4	0
G5	2.8	1.5	0	2.8	0
G22	0.4	0.1	4.3	1.4	4.1
G20	0.4	0.1	4.3	1.4	0
O1	0.4	0.1	0	1.4	0
O3	0.4	0.0	0	1.4	0
Q1	0.4	0.5	0	1.4	0
R6	0.4	0.1	4.3	1.4	5.4
R7	0.4	1.8	4.3	1.4	0
R8	0.4	0.6	4.3	1.4	1.8
R9	20.4	12.8	17.4	27.8	8.6
R11	6.0	2.9	0	13.9	0
R16	0.4	0.3	0	1.4	0
W10	1.2	0.9	8.7	4.2	0
n	250	4701	23	72	222

Building 6, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B1	0.1	0.0	0	0.8	0
F11	1.2	0.5	0	6.0	0
G1	55.7	63.6	61.3	38.3	68.0
G4	8.4	8.4	3.8	6.8	4.8
G5	4.4	2.8	3.8	6.1	3.4
G22	0.1	0.3	0	0.8	0
M5	0.1	0.2	0	0.8	0
O1	0.1	0.0	0	0.8	0
O3	0.1	0.0	1.3	0.8	0.6
P1	1.5	1.1	1.3	2.3	1.3
R7	0.7	0.9	3.8	3.8	4.8
R9	23.6	18.2	18.8	21.8	15.0
R10	0.8	0.3	0	0.8	0
R11	0.7	0.4	0	3.0	0
R16	0.1	0.7	0	0.8	0
S	0.1	0.2	0	0.8	0
W10	2.0	2.3	6.3	6.0	2.2
n	741	14354	80	133	1068

Building 6, occupation

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B1	1.2	0.3	9.1	3.8	2.2
F11	1.2	0.3	4.5	5.8	0
G1	64.6	64.6	50.0	32.7	53.5
G2	0.4	0.4	4.5	1.9	3.7
G4	8.2	8.0	0	3.8	0
G5	2.8	4.7	0	7.7	0
O1	0.4	0.3	0	1.9	0
O2	0.4	0.1	0	1.9	0
R7	1.9	0.9	9.1	3.8	7.7
R9	16.7	17.6	18.2	25.0	28.6
R10	0.4	1.0	0	1.9	0
R14	0.4	0.1	0	1.9	0
R20	1.2	1.1	4.5	5.8	4.4
W10	0.4	0.5	0	1.9	0
n	257	4353	22	52	273

Site LX/LM, BXI NE etc, rubble

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
A2	0.4	3.7	1.9	1.1	2.1
B1	0.8	0.4	0	2.2	0
F11	2.0	1.3	0	3.4	0
G1	46.8	45.8	47.2	30.3	49.7
G2	0.4	0.2	1.9	1.1	1.6
G4	5.2	4.8	3.8	6.7	4.3
G5	5.6	5.6	7.5	5.6	7.6
G20	1.2	1.1	0	1.1	0
O30	0.4	0.6	1.9	1.1	1.7
P1	2.0	3.7	1.9	1.1	0.9
R6	2.4	1.0	0	4.5	0
R7	2.4	3.8	1.9	3.4	2.6
R9	17.6	14.1	17.0	16.9	14.0
R10	2.8	1.9	1.9	4.5	1.7
R11	8.0	7.7	7.5	11.2	7.1
R20	0.4	1.0	0	1.1	0
W10	1.6	3.1	5.7	4.5	6.6
n	250	5224	53	89	577

BUILDING 8, RUBBLE

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
F10	1.7	0.1	0	4.3	0
G1	53.3	50.7	66.7	34.8	37.7
G4	3.3	0.8	0	4.3	0
G5	11.7	2.5	0	8.7	0
G21	6.7	1.7	0	4.3	0
G22	1.7	1.3	16.7	4.3	32.1
R9	13.3	3.7	0	17.4	0
R11	1.7	0.3	0	4.3	0
S	3.3	1.1	0	8.7	0
W10	3.3	37.9	16.7	8.7	30.2
n	60	1855	6	23	53

DXII-DXIII, BUILDING 9, RUBBLE

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
B10	0.4	0.2	0	1.2	0
F11	2.2	0.8	3.0	4.8	3.9
G1	51.1	48.6	45.5	25.0	44.0
G2	0.4	0.1	0	1.2	0
G4	1.3	1.0	3.0	2.4	3.1
G5	1.7	0.8	0	4.8	0
G21	0.4	0.2	0	1.2	0
G22	2.2	0.7	0	3.6	0
M1	0.4	0.7	3.0	1.2	1.7
M10	0.4	4.2	3.0	1.2	0
P1	0.4	0.1	0	1.2	0
Q1	0.4	0.1	0	1.2	0
R9	22.9	26.1	21.2	22.6	29.0
R10	0.9	1.2	0	1.2	0
R11	10.6	11.4	12.1	17.9	15.0
R16	1.3	2.0	0	2.4	0
W2	0.4	0.2	0	1.2	0
W10	2.2	1.6	9.1	6.0	3.3
n	227	4571	33	84	359

DXII-DXIII, BUILDING 9, OCCUPATION

Fabric	Sherd Nos	Wt	Min Rims	Min Vessels	RE
F11	4.2	2.3	4.9	7.0	0
G1	51.8	51.6	34.1	25.4	32.4
G2	0.5	0.2	0	1.4	0
G3	0.5	0.0	0	1.4	0
G4	2.6	3.8	2.4	1.4	3.5
G5	0.5	0.2	2.4	1.4	1.6
O1	1.0	0.3	0	1.4	0
O3	0.5	0.1	0	1.4	0
R6	1.0	0.3	2.4	1.4	1.9
R7	0.5	2.7	2.4	1.4	7.8
R9	23.6	28.3	31.7	26.8	39.6
R10	0.5	0.0	0	1.4	0
R11	6.3	5.2	9.8	12.7	7.0
R15	1.0	0.6	2.4	2.8	1.6
R16	1.6	0.5	0	2.8	0
S	1.0	0.2	0	2.8	0
W10	2.6	3.8	7.3	7.0	4.5
n	191	4900	41	71	485

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INDEX
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